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KINZIE MILLER—Vice President
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Washington Highlights

President Truman has signed the new Public Lands Oil Leasing Bill, sponsored by Senator Joseph C. O'Mahoney of Wyoming and Senator Carl A. Hatch of New Mexico.

A number of changes are incorporated in the new measure. Essentially, a 12½ per cent royalty is provided for production from new public domain deposits discovered after May 27, 1941, including lands in unit or cooperative agreements awaiting approval at the time of discovery as well as to lands contained in agreements already approved. It binds assignees and sublessors to same terms of lease as original lessee, upon approval of any assignment or sublease. The assigner of lease and his surety remain responsible until the Interior Secretary ratifies assignments.

Acreage limitations are enlarged under terms of the new measure from 7680 to 15,360 acres in any one state. It also permits the taking of options for geological or geophysical examination of prospective areas up to 100,000 acres in any one state.

Senator O'Mahoney announced that Interior Secretary Krug will hold hearings September 26 at Denver, prior to issuance of regulations under the new measure.

The Interior Department's Bureau of Land Management explained when the bill became law that it would be necessary to issue new regulations to properly implement the measure and revise all forms of rental and royalty payments.

O'Mahoney said that Krug intends that all persons who will be affected by the bill shall be heard at the Denver meeting. This action, he pointed out, is in line with Krug's desire to promote a "closer understanding between the Interior Department and the public domain."

This was the attitude of Secretary Krug when he spoke at the meeting of Wyoming stockgrowers in Laramie, O'Mahoney asserted. "I believe the new regulations will result in improved administration of the leasing act and will have the effect of bringing about full development of oil resources of the public land states and encourage small operators."

The Secretary apparently views the position of oil reserves in the country as reaching the critical stage. In an address before the quarterly meeting of the Interstate Oil Compact Commission in Grand Rapids, Mich., he declared oil will be scarce in the United States long ahead of any comparable scarcity in other producing countries. This will come about, he said, because while U. S. has about one-sixth of the world's resources, it is producing and using about two-thirds of the world's oil.

Oil discoveries in United States have reached the halfway mark, he commented. He expressed the opinion that the second half will take much longer, be much more difficult and far more costly.

Public Roads Commissioner has asked all highway commissioners in the several states to defer highway construction projects in which Federal aid is involved. The Federal aid highway program requires matching by the states on a 50-50 basis. California's share of the Federal allotment for the fiscal year is $22,300,000.

A meeting of the American Petroleum Institute board of directors has been called for September 25 at the Carlton Hotel to discuss major changes contemplated in the program for the trade association's 28th annual meeting in November at Chicago.

The Presidential veto of the Congressional tideland resolution is analyzed by many seasoned observers as being partially motivated by the Chief Executive's distaste to offering former Secretary Harold L. Ickes further opportunity for slinging mud at his friend Edwin W. Pauley, United States Reparation Commissioner. Frank avowal of the case of the states probably would have initiated the charge by Mr. Ickes that the President in so doing was only championing Mr. Pauley. Whether or not Mr. Truman so reasoned has not been indicated officially.

Mr. Pauley's name has come to the front as the probable choice for high post in negotiating a settlement of the Palestine question.

A final decision is expected shortly on stripper well subsidy payments, which will be continued until

(Continued on Page 59)

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California Oil Well Gas Available to Gas Companies

History and a Five Year Estimate

By
Ernest K. Parks

Introduction

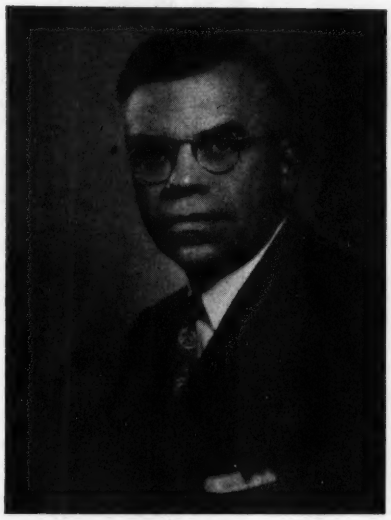
In connection with public hearings before the Railroad Commission of California, and the Federal Power Commission in the matter of applications to bring Texas Natural Gas to California, I was called upon to study the source of supply of California Oil Well Gas, to estimate the average future rate at which such gas would be available to gas companies, and to testify thereon before the commission. I was employed by the California Applicants; Southern California Gas Company, and Southern Counties Gas Company of California, each of whom have given permission to release this summary.

Exhibits and testimony presented to the commissions are open for public inspection, but at the request of the Editor of CALIFORNIA OIL WORLD, certain data and forecasts are herewith being made available for convenience and interest of readers.

The Problem

Although continued observation of California Supply of Oil Well Gas, coupled with demand statistics and forecasts had, of course, convinced the California Applicants of the necessity for an increased supply for Southern California, it was necessary to construct a brief but informative exhibit for the record. I was given the assignment as to Oil Well Gas Supply, and was asked to make an independent investigation of fact and to submit my estimate of the future.

A forecast of the future rate at which California Oil Well Gas will be available to gas companies involves (1) Rate of Natural Gas output from wells; (2) Deduction for that portion of well output which is injected into wells for gas-lift; (3) Deduction for field use and blow, and finally, (4) Deduction for gas injection into formations for field operating purposes, such as pressure maintenance and so called "cycling."



The Author

Procedure

It was considered appropriate to confine the estimate to fields and zones known as of the fall of 1945. The estimate therefor makes no allowance for new discoveries of oil well gas.

Inasmuch as the problem had to do exclusively with oil well gas this investigation was confined to wet gas produced from oil wells only; that is, from wells producing from oil bearing strata.

After an intensive study of California Oilfields it appeared that a logical break down was to divide the oil producing fields of the state into the three well known areas, Valley, Coastal, and Basin. A ten year history was ample to indicate trends as to supply and a 3 2/3 year history was used to give the background for gas available to gas companies.

In each large area there was one outstanding source of oil well gas; Kettleman Hills in the San Joaquin Valley, Ventura Avenue in the Coastal District, and Wilmington in the Los Angeles Basin. History and estimates were therefore further analyzed to give results in terms of two divisions for each area. One division was the principal field, the second included all other fields in area.

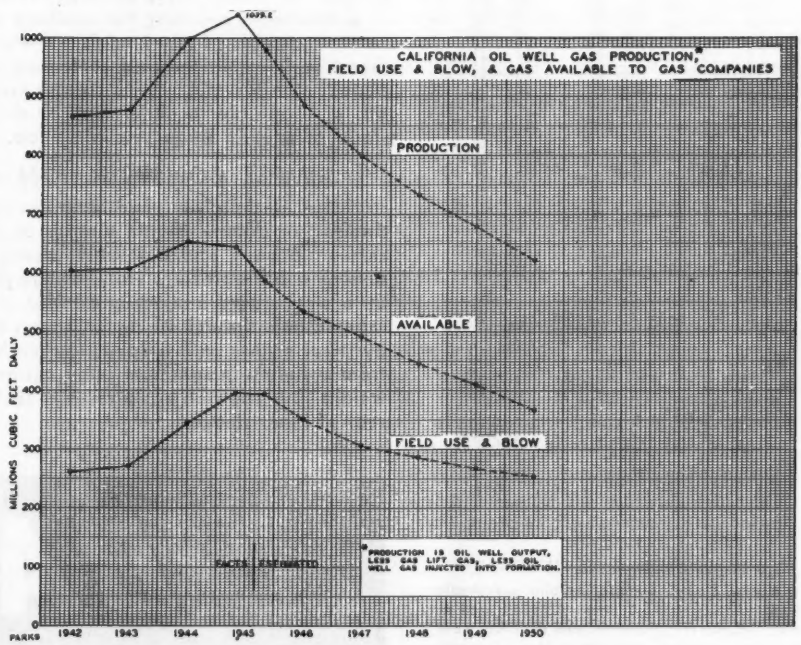


Chart I.

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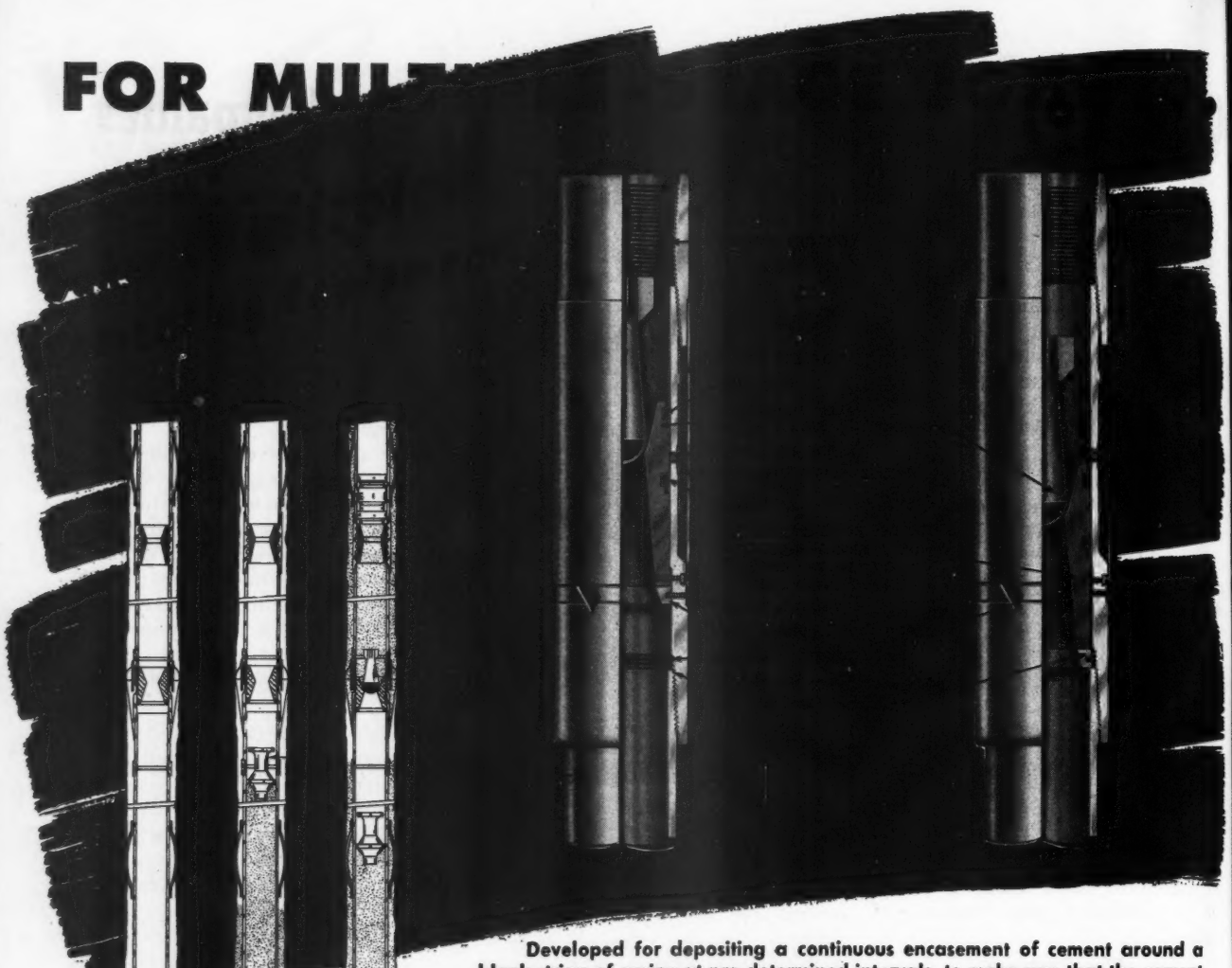

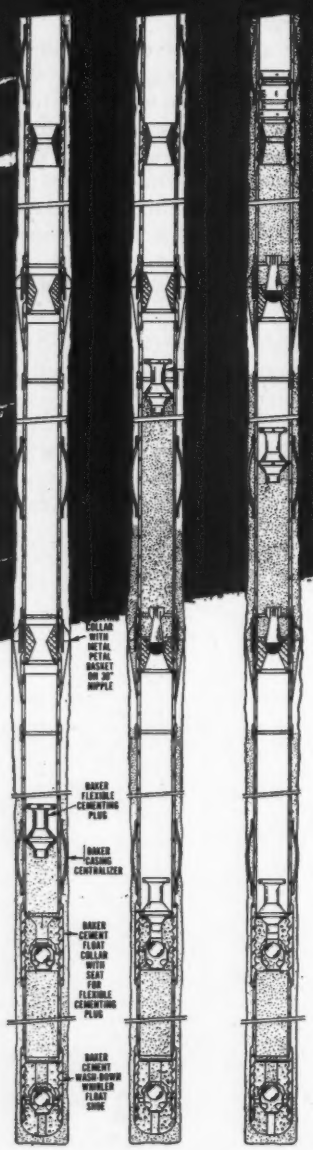
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BAKER OIL TOOLS

BAKER OIL TOOLS, I

Table 1
SUMMARY
OIL WELL GAS AVAILABLE TO GAS COMPANIES, STATE OF CALIFORNIA

Period	San Joaquin Valley	Coastal District	Los Angeles Basin	Total State California
	Millions of Cubic Feet Per Period			
History				
1942	120,200	36,300	64,000	220,500
1943	111,900	43,600	66,000	221,500
1944	116,200	56,600	66,600	239,400
8 mo. '45	77,700	38,200	40,500	156,400
Estimate				
4 mo. '45	35,300	16,100	20,100	71,500
1946	98,400	44,700	52,000	195,000
1947	89,000	42,200	48,400	179,000
1948	84,100	36,300	42,900	163,300
1949	78,700	34,100	36,900	149,700
1950	71,100	30,700	31,800	133,600
	Millions of Cubic Feet Daily			
History				
1942	329.2	99.4	175.5	604.1
1943	306.6	119.6	180.6	606.8
1944	317.5	154.6	182.0	654.1
8 mo. '45	319.9	167.1	166.8	643.8
Estimate				
4 mo. '45	289.2	132.0	164.8	586.0
1946	269.6	122.5	142.4	534.5
1947	243.9	115.6	132.6	492.1
1948	229.9	99.2	117.1	446.2
1949	215.5	93.4	101.1	410.1
1950	194.9	84.1	87.1	366.1

Inasmuch as interested parties were not concerned with quantities of gas used in lifting oil, nor with gas injected into formations, the term productioon was specifically defined to mean net production; that is, well output, less gas-lift gas, less gas injected into formations. All further reference to gas production in this article has this meaning.

"Field use and blow" include all natural oil well gas consumed in the field or used by oil operators in their own operations. In California the actual blow is quite insignificant. Although this fact does not appear in the exhibit, the testimony makes that point clear.

"Available to Gas Companies" is the term used to designate gas which in the past, actually was received by gas companies. Thus the historic "Field Use and Blow" represents the difference between production and "Available," whereas the estimated "Available" represents the difference between production and "Field Use and Blow."

HISTORY AND ESTIMATED FUTURE CALIFORNIA OIL WELL GAS PRODUCTION, FIELD USE AND BLOW AND AVAILABLE TO GAS COMPANIES; MILLIONS CUBIC FEET DAILY.

	1942	1943	1944	8 Mo. 1945	Last 4 Mo. 1945	1946	1947	1948	1949	1950
Total San Joaquin Valley Production	424.9	414.6	465.9	489.4	448.2	414.8	372.7	358.3	344.3	323.7
Less Field Use and Blow	95.7	108.0	148.4	169.5	159.0	145.2	128.8	128.4	128.8	128.8
Available	329.2	306.6	317.5	319.9	289.2	269.6	243.9	229.9	215.5	194.9
Kettleman Hills Production	240.7	217.3	228.6	226.0	216.4	200.5	192.1	180.1	167.9	149.9
Less Field Use and Blow	45.1	46.0	51.8	54.8	49.2	49.3	49.3	49.2	49.3	49.3
Available	195.6	171.3	176.8	171.2	167.2	151.2	142.8	130.9	118.6	100.6
Valley—Others—Production	184.2	197.3	237.3	263.4	231.8	214.3	180.6	178.2	176.4	173.8
Less Field Use and Blow	50.6	62.0	96.6	114.7	109.8	95.9	79.5	79.2	79.5	79.5
Available	133.6	135.3	140.7	148.7	122.0	118.4	101.1	99.0	96.9	94.3
Total Coastal Production	136.9	162.3	217.9	237.4	223.0	191.0	170.4	148.4	137.3	127.9
Less Field Use and Blow	37.5	42.7	63.3	80.3	91.0	68.5	54.8	49.2	43.9	43.8
Available	99.4	119.6	154.6	157.1	132.0	122.5	115.6	99.2	93.4	84.1
Ventura Avenue Production	94.6	105.7	127.2	122.0	117.2	112.6	107.4	104.9	104.9	104.9
Less Field Use and Blow	22.0	25.2	30.2	32.3	32.8	32.9	30.1	28.7	28.8	28.8
Available	72.6	80.5	97.0	89.7	84.4	79.7	77.3	76.2	76.1	76.1
Coastal—Others—Production	42.3	56.6	90.7	115.4	105.8	78.4	63.0	43.5	32.4	23.0
Less Field Use and Blow	15.5	17.5	33.1	48.0	58.2	35.6	24.7	20.5	15.1	15.0
Available	26.8	39.1	57.6	67.4	47.6	42.8	38.3	23.0	17.3	8.0
Total Los Angeles Basin Production	303.6	301.0	314.9	312.4	308.2	279.4	255.9	226.4	197.0	169.3
Less Field Use and Blow	128.1	120.4	132.9	145.6	143.4	137.0	123.3	109.3	95.9	82.2
Available	175.5	180.6	182.0	166.8	164.8	142.4	132.6	117.1	101.1	87.1
Wilmington Production	85.6	90.3	104.9	106.7	103.3	98.9	97.8	88.7	78.6	69.0
Less Field Use and Blow	(Not segregated)			34.2	34.4	33.2	33.4	29.5	25.2	23.0
Available				72.5	68.9	65.7	64.4	59.2	53.4	46.0
Basin—Others—Production	218.0	210.7	210.0	205.7	204.9	180.5	158.1	137.7	118.4	100.3
Less Field Use and Blow	(Not segregated)			111.4	109.0	103.8	89.9	79.8	70.7	59.2
Available				94.3	95.9	76.7	68.2	57.9	47.7	41.1
Total State Production	865.4	877.9	998.7	1039.2	979.4	885.2	799.0	733.1	678.6	620.9
Less Total Field Use and Blow	261.3	271.1	344.6	395.4	393.4	350.7	306.9	286.9	268.6	254.8
Total Available to Gas Companies	604.1	606.8	654.1	643.8	586.0	534.5	492.1	446.2	410.0	366.1

Production: Oil well gas output, less gas-lift gas, less oil well gas injected into formations. (All figures are exclusive of storage operations.)
History: 1942, 1943, 1944 and 8 mo. of 1945.
Estimate: Last 4 mo. of 1945, and 1946, 1947, 1948, 1949, and 1950.

Table 2

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Table 3

HISTORY AND ESTIMATED FUTURE CRUDE OIL AND NET OIL WELL GAS PRODUCTION WITH NET GAS OIL RATIO TOTAL SAN JOAQUIN VALLEY

Year	Daily Average Bbl. Oil	Daily Average Millions Cu. Ft.	Average Net Gas Oil Ratio, Cu. Ft. per Bbl.
History			
1935	245,730	454.7	1,850
1936	266,742	524.8	1,967
1937	287,047	525.8	1,832
1938	261,358	536.3	2,052
1938	230,294	475.6	2,065
1940	238,475	485.2	2,035
1941	257,017	518.2	2,016
1942	287,877	424.9	1,476
1943	364,491	414.6	1,137
1944	402,988	465.9	1,156
8 mo. 1945	460,799	489.4	1,062
Estimate			
4 mo. 1945	391,000	448.2	1,146
1946	348,000	414.8	1,192
1947	331,000	372.7	1,126
1948	325,000	358.3	1,102
1949	320,000	344.3	1,076
1950	312,000	323.7	1,038

Notes: Oil production is in 42 gal. bbl.
Oil well gas production is oil well output, less gas-lift gas, less oil well gas returned to formations.
Net gas oil ratio is oil well gas production divided by oil production.

Table 4

HISTORY AND ESTIMATED FUTURE CRUDE OIL AND NET OIL WELL GAS PRODUCTION WITH NET GAS OIL RATIO TOTAL COASTAL DISTRICT*

Year	Daily Average Bbl. Oil	Daily Average Millions Cu. Ft.	Average Net Gas Oil Ratio, Cu. Ft. per Bbl.
History			
1935	58,112	123.6	2,127
1936	62,570	137.7	2.201
1937	68,538	146.9	2,143
1938	73,622	138.5	1,881
1939	71,494	134.1	1,876
1940	76,588	123.4	1,611
1941	85,676	131.7	1,537
1942	91,050	136.9	1,504
1943	108,947	162.3	1,490
1944	133,614	217.9	1,631
8 mo. 1945	147,016	237.4	1,615
Estimate			
4 mo. 1945	144,000	223.0	1,549
1946	122,000	191.0	1,566
1947	113,000	170.4	1,508
1948	104,000	148.4	1,427
1949	96,000	137.3	1,430
1950	88,000	127.9	1,453

Notes: Oil production is in 42 gal. bbl.
Oil well gas production is oil well output, less gas-lift gas, less oil well gas returned to formations.
Net gas oil ratio is oil well gas production divided by oil production.
*Exclusive Aliso Canyon.

A fundamental was to estimate oil production, and the gas-oil ratio, thus obtaining a logical basis for oil well gas output.

Results

The conclusion as to recent history and a five year forecast for oil well gas available to Gas Companies is shown in Table 1, Summary.

Detail by all subdivisions, showing productcion, Field Use and Blow, and Available, appears in Table 2.

A grand graphic summary appears in Chart 1.

Interesting performance data for the entire state are plotted in Chart 2.

In addition three other tables are presented to give the breakdown for the total data of Chart 2. See tables 3, 4 and 5.

Comment

Oil men will be quick to note that estimated oil production for the current year is far below the actual rate. The anticipated postwar decline did not take place, and also there is some production from new discoveries for which no estimate was attempted.

It is nevertheless true that the more oil and oil well gas produced this year leaves just that much less for the ensuing years, and does not indicate that the estimate will continue low by the same proportions as is now the case.

We are all hopeful that oil production from new discoveries, added to production from known fields, as estimated herein, will result in a State oil production far in excess of the rates shown in Chart 2.

A very interesting fact is shown in Chart 2. Note the gas-oil ratio; that is, the proportion of net gas production as defined herein to oil, remained very close to 1500 cu. ft./bbl. for seven years, through 1941. After that year, the practice of restricting gas output and the injection of gas into oil producing formations had a pronounced effect and now the ratio is reduced to about 1200 cu. ft./bbl. This represents a 20% cut. Further reductions may be expected, and provision for some of these have been written into the estimate of the future.

Conclusion

Natural decline of oil well gas

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output, restriction of output for the purpose of increasing oil recovery efficiency, and injection of gas into oil producing formations all combine to decrease the rate that oil well gas is made available to gas companies. Thorough investigation discloses that all three factors will increase causing a further decrease of available gas from sources known at the time of the estimate, and a severe decline is anticipated.

Chart II. →

Daily average crude oil production and net oil well gas production, with net gas oil ratio.

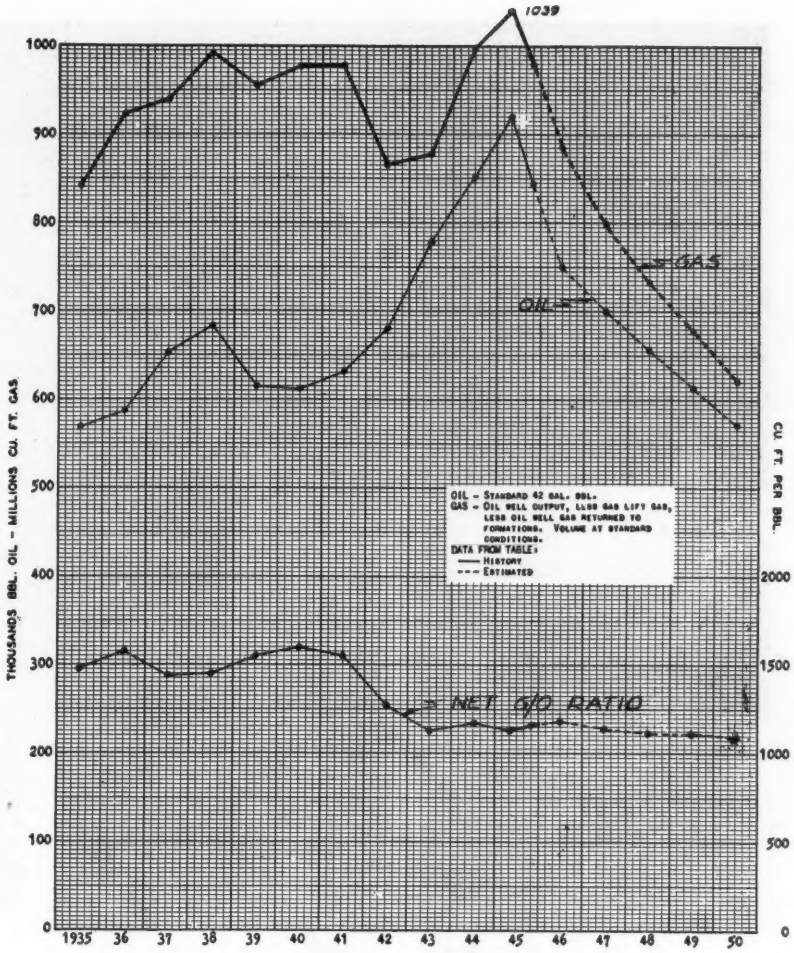


Table 5

HISTORY AND ESTIMATED FUTURE CRUDE OIL AND NET WELL GAS PRODUCTION WITH NET GAS OIL RATIO

TOTAL LOS ANGELES BASIN*

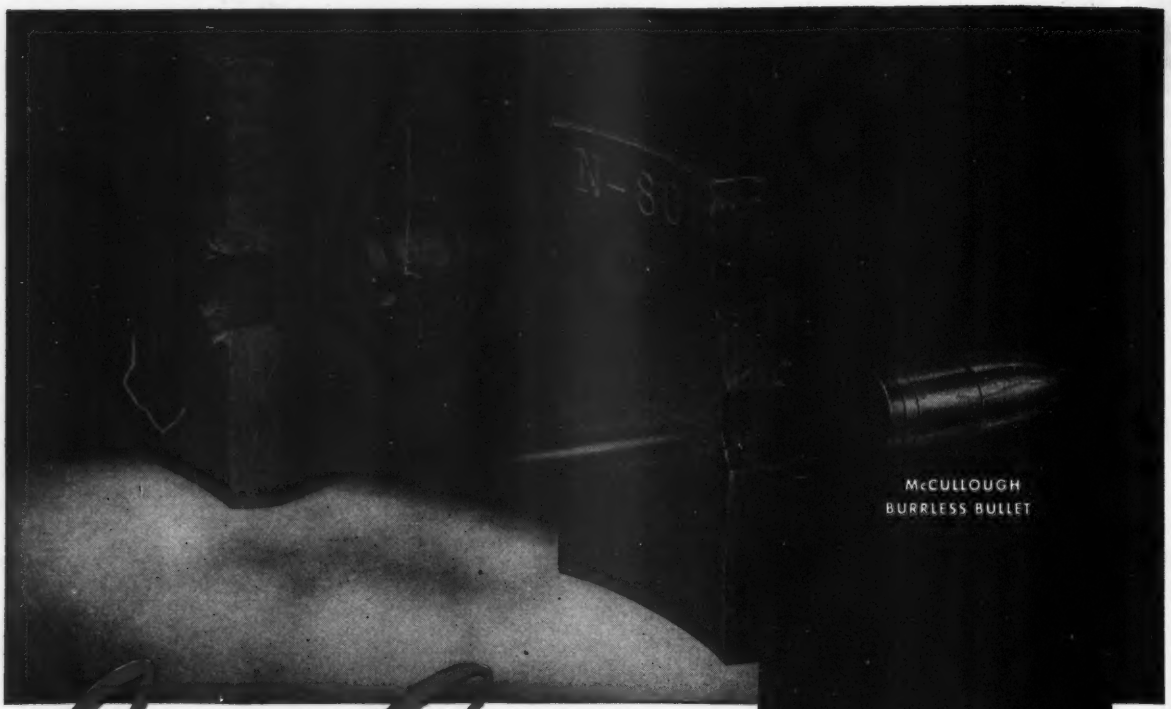
Year	Daily Average Bbl. Oil	Daily Average Millions Cu. Ft.	Average Net Gas Oil Ratio, Cu. Ft. per Bbl.
History			
1935	265,561	263.5	992
1936	257,500	261.9	1,017
1937	297,895	267.4	898
1938	349,265	317.0	908
1939	312,881	345.6	1,105
1940	296,636	368.8	1,243
1941	288,165	328.7	1,141
1942	301,419	303.6	1,007
1943	305,159	301.0	986
1944	315,292	314.9	999
8 mo. 1945	311,937	312.4	1,001
Estimate			
4 mo. 1945	309,000	308.2	997
1946	280,000	279.4	998
1947	256,000	255.9	1,000
1948	227,000	226.4	997
1949	198,000	197.0	995
1950	171,000	169.3	990

Notes: Oil production is in 42 gal. bbl.
Oil well gas production is oil well output, less gas-lift gas, less oil well gas returned to formations.
Net gas oil ratio is oil well gas production divided by oil production.
*Includes Aliso Canyon.

Beach Try Seeks Water Entrance

Barnhart-Morrow Cons., Alford No. 1 test in Sec. 18-6s-10w in the Huntington Beach area, which was completed flowing an estimated 500 barrels of fresh water, with a trace of oil, and 1,000,000 cubic ft. of gas, is being prepared for a try at locating point of water entry. There are some indications that casing may be split above 1000 ft.

D. D. and Dorothy Dunlap's Aldrich No. 1 in the section is ready to run liner, after redrilling to 2995 ft. Old bottom is 3073 ft. In Sec. 27-5s-11w, R. W. Jerman is coring with Gothard No. 1 at 5565 ft. Two and one-half ft. of oil sand was cored on bottom. L. & W. Oil Co., Ltd., has rigged up No. 1 in Sec. 13-6s-11w. Two and one-half miles north of his discovery on the Anaheim Sugar fee property, A. W. Lyddon is drilling Crew Comm. No. 1 in Sec. 32-5s-10w below 6400 ft.



Just Compare.

The unretouched photographs reproduced here show a section cut from 7⅝" 39 lb. N-80 casing which was gun-perforated, at the same instant, under identical conditions, by regular bullets and by the new improved McCullough Burrless Bullet . . . one of a series of tests which have proved beyond question that *McCullough's Armor-Piercing Burrless Bullet not only gives a completely burr-free hole, but also gives slightly more penetration into the formation!*

Compare, and see for yourself that swabs, packers or other close-fitting tools cannot catch or be damaged in a casing gun-perforated with the new improved McCullough Armor-Piercing Burrless Bullet.

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Measuring Diameter of Drilled Holes

Regardless of the care used in drilling oil wells, the hole actually made by the bit will seldom be the same size as the gauge of the bit. Different formations will react differently while the hole is being cut through them and in some cases the hole size will change after the formations have been penetrated. The character of the mud fluid being used and the hydraulicking action of the fluid as it leaves the bit will have their influence. Worn bits will naturally not cut to their original gauge but the fact that the gauge of a worn bit is less than it was when new does not mean that the hole will necessarily be of smaller diameter than desired. Proper control of weight carried on the bit, of speed of rotation and of mud will, of course, make the best hole possible under the formational conditions encountered; but even then the diameter of the hole may be different than what might be expected. In general, it has been found that the hole is larger in shale than it is in sand. There are, however, different kinds of shale and different kinds of sand so any relative differences in these two kinds of formation cannot be established.

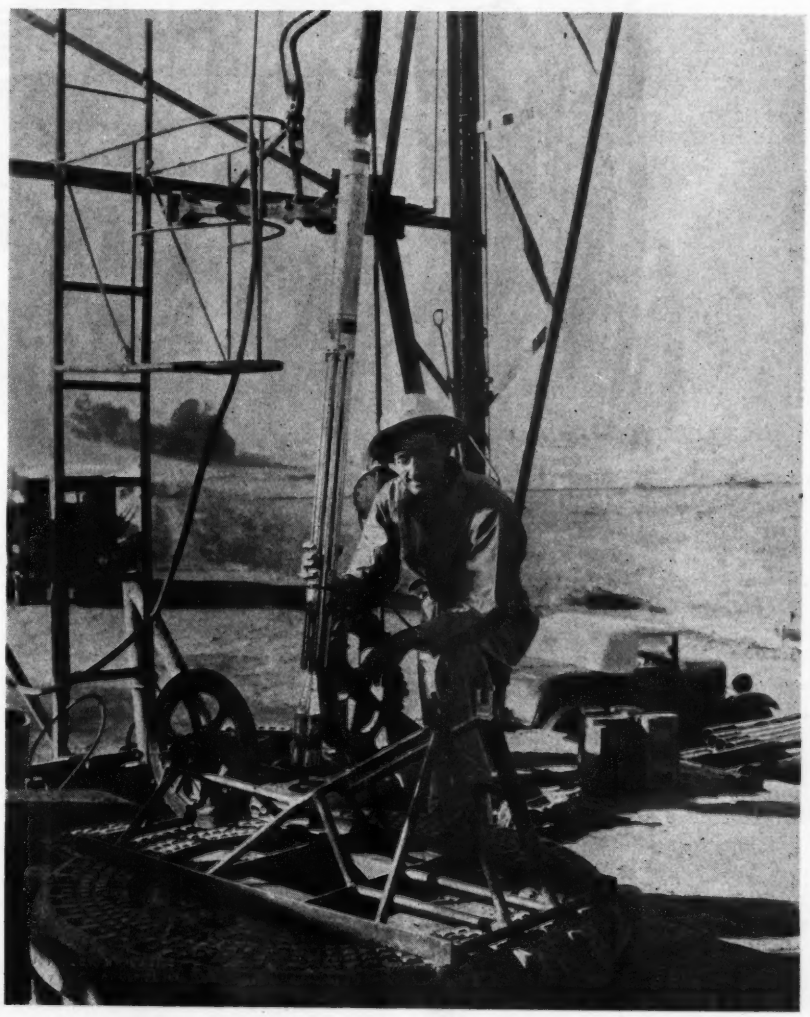
A knowledge of the actual diameter of the hole is frequently very important to subsequent operations. Calipers for measuring this diameter are therefore widely used and have been found of great value in the subsurface work performed after the hole has been drilled. These calipers, which combine mechanical and electrical principles, are run into the well on a wire line in a closed position and when they reach the lowest point of the distance through which the caliper survey is to be made, four arms that contact the wall of the hole are released. The calipers are then pulled up the hole at a speed of approximately 100 feet per minute and automatically record variations in diameter of the hole on a chart at the surface.

The four arms are independent of each other and as each one passes over the irregularities of the wall of the hole its varying distances from the center line of the calipers during its upward travel is indicated. The movement of the individual arms is measured by electrical resistance and the sum of the resistances of the four arms is automatically divided by four by an instrument at the surface. This average is recorded by the instrument in units of distance to give a continuous reading of the mean diameter of the hole as can be seen in the illustrations. The shape of the hole is not shown but because the arms move individually, any errors that might arise from elliptically shaped holes, from holes taken at an angle from the vertical or from other irregularities are compensated for.

The calipers are frequently used to determine whether the hole needs reaming before running casing. In many cases there is danger of the hole being reduced in diameter to such an extent that there will be insufficient clearance between the wall of the hole and the pipe; and there may be spots where the pipe will stick as it passes down the hole. A caliper log will show the diameter that exists and will indicate any places of reduced diameter that will have to be reamed to provide desired clearance.

Data for Cementing Operations

When the cement placed behind



When running in the well the arms are kept close to the caliper body.

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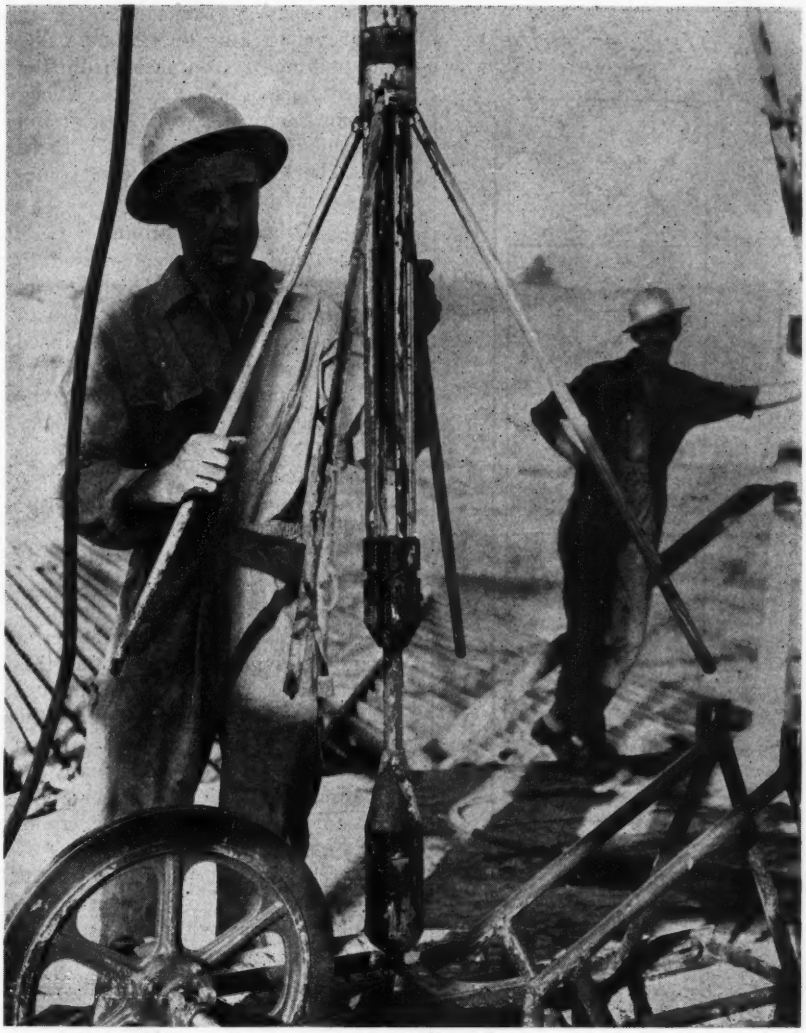
the casing is to extend up to a certain height it is necessary to compute the amount of cement that must be used to reach this desired height. If the actual hole diameter is not the same as that of the bit used to drill the hole, the computation will be in error. Where caliper logs are made before the pipe is run it has usually been found that the volume of slurry that would otherwise have been placed was inadequate. There have been cases where it has been found that three times as much cement as ordinarily placed should be used to carry the cement to the height desired. In exceptional cases the calipers have shown that an even greater increase has been necessary.

The data furnished by the caliper has been used to advantage in determining how much cement should be used in multiple stage cementing. With the proper amount of cement placed at each stage there is assurance that complete shut-off will be obtained and that squeeze cement jobs to fill up places not filled with cement will not be necessary.

When bottom hole plugs are to be placed, a caliper survey will show how much cement is required to bring the top of the plug up to the desired height.

The caliper log will indicate where casing centralizers or guides should be placed on the pipe before it is run into the hole. Centralizers are obviously useless if the spring ribs cannot contact the wall of the hole and thus center the pipe to insure a good encasement of cement around the shoe and the section of pipe immediately above it. The same information will indicate where hole scratchers should be placed to clean the wall for the cement job. The scratchers will not be effective if the hole is so large that they cannot reach the wall.

When used in combination with an electric log, the caliper survey can be employed to determine the best point for setting the casing. An extensive practice is to set the casing in the shale just above the oil sand; but since shales are usually where the hole becomes oversize, this place may not be the best one for the location of the shoe.



The arms in expanded position are here shown as the caliper comes out of the well.

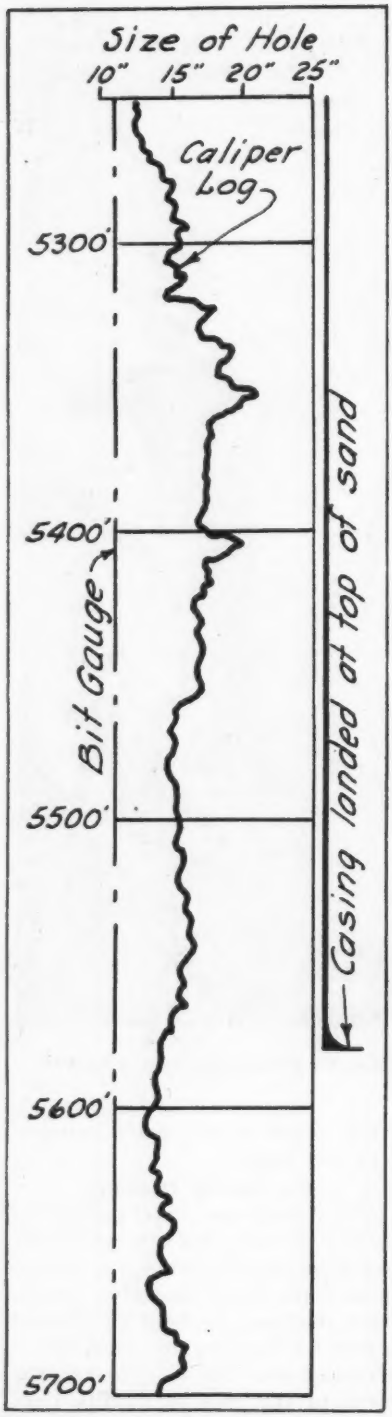
Where a large, irregular hole is at the shoe the cement may fail to scour the wall properly and so not form an adequate bond with the shale to shut off waters from above. Later failure of the shutoff may develop from this same reason should progressive disintegration of the shale occur and allow water to pass around the cement.

Formation Testing

The expansion of the rubber of a formation tester is limited and if the hole at the point where the tester is to be set is large the packer cannot hold. Under these circumstances a test cannot be made. Calipers have been run after such failures and from the data disclosed, points have been selected where the formation tester could be set and a satisfactory test made.

For Gravel Packing

When wells are gravel packed the section of hole through which the gravel extends is enlarged to accommodate the gravel and give it sufficient thickness to form an efficient screen for trapping any sand that is produced with the oil. The enlargement of the hole is usually done with a wall scraper and formations that make sand will usually cause the scraped hole to be irregular in its profile. There is thus the chance of putting in too little gravel to be effective unless a caliper is used to obtain information from which the volume of gravel can be computed. If too little gravel is placed behind the liner, sand trouble, which



This caliper log showed a hole much greater than the gauge of the bit and provided data for estimating the quantity of cement that had to be used for cementing the casing properly.

the gravel packing is designed to prevent, may result.

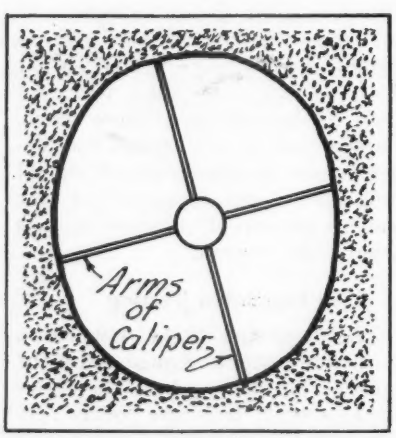
One company that has used gravel packing by the reverse circulation method* extensively has checked the accuracy of the caliper log in the gravel packing operations. The hole volumes as computed from the caliper measurements have been compared with the volume of gravel pumped into the well and these have checked very closely, sometimes to within 10 cu. ft.

Other Applications

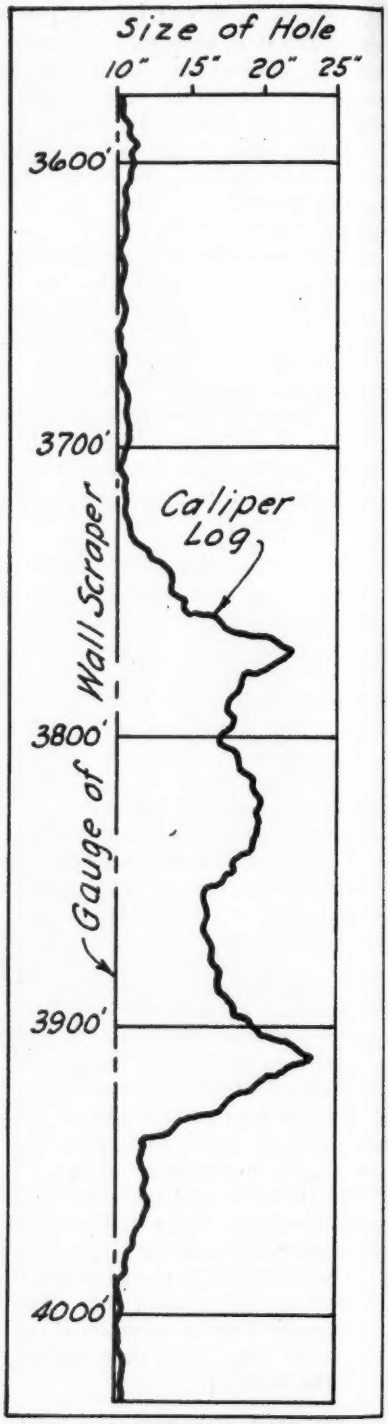
Poor mud is sometimes used in drilling operations and such mud will build a thick cake on the wall of the hole. This is generally caused by high water loss which allows the solid particles to form on the wall. The cake decreases the diameter of the hole and when it becomes thick enough will present a hazard. The caliper log will naturally disclose tight spots thus formed so that corrective measures may be taken.

Water loss may have an opposite effect on some formations after a lapse of time. The water, in this case, causes the shale to disintegrate and slough off the wall of the hole. After hole has been left open for a long time it will usually be advantageous to take caliper readings to determine what the condition of the hole is.

Correlations by the use of the caliper log have also been found possible. Because the shales in the wells tend to develop an enlarged hole and the sands remain more nearly to the bit size, the logs establish identifying markers. Sections of holes in the same field show similar characteristics and these can be used for correlation purposes. Sandy shales offer similar characteristics in adjacent holes but they are not as clearly defined as are the formations that are composed entirely of shale and sand.



Each arm moves individually and when the hole is out of round, spring tension in the arms keeps the caliper approximately in the center of the hole and causes an average diameter to be recorded.



In this hole that was wall-scraped for gravel packing, the caliper log showed a caving section that had to be filled with gravel.

Synthetic Rubber in the Oil Industry

By W. S. LONG, Pacific Coast Manager
Mechanical Division,
United States Rubber Company

The teaming up of the Pacific Coast's rubber and oil industries has placed the latter in the position of pulling itself up by the bootstraps. For having contributed the basic raw materials for the manufacture of synthetic rubber the Oil Industry is paid back with rubber products that add materially to efficiency of operation and greatly reduce costs.

The story of the Pacific Coast's Synthetic Rubber Industry and its unique production cycle which is complete from oil wells to finished rubber products has been told many times, but usually from the standpoint of the consuming public which usually thinks of rubber in terms of tires and tubes.

But from the industrial standpoint, the story is incomplete unless consideration is given to all the synthetic rubbers and their physical characteristics. In the oil industry's case this is doubly important since Synthetics have been found to possess qualities lacking in the natural type which enables the rubber manufacturer to provide better industrial products.

There are five distinct synthetic rubbers now being produced in commercial quantities. Each is individual in chemical constituents, processing and physical characteristics. Some are a part of the government-owned rubber plant program; others are privately produced and marketed under trade names. Below is a general summary of these basic synthetic rubbers:

Government Designation	Type Name
GR-S	Buna-S
GR-A	Buna-N
GR-M	Neoprene GN
GR-I	Butyl
GR-P	Thiokol

Purposes of Each

All these synthetics can be made into finished products by using the same manufacturing equipment which was used with natural rubber. Buna-S is used as an economical synthetic most closely resembling natural rubber. Buna-N is good for high tensile, oil and aromatic resistance. Neoprene is good for general purposes, requiring high tensile, stretch and resilience, combined with ability to withstand cold, heat, oils, ozone, sunlight and age. Butyl is equal or superior to natural rubber in stretch, electrical properties, aging and is particularly valuable because of its impermeability to water, liquids and gases. Thiokol is resistant to aromatics, oils, solvents, etc., but is used only for particular requirements, because of processing difficulties. A chart accompanying this article shows comparisons of all these synthetics as againt natural rubber.

W. S. Long

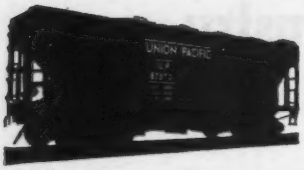
While GR-S or Buna-S government rubber is made in a number of plants to as near an exact uniform product as is possible, the other types are mostly types for particular purposes. Buna-N is produced in several grades by each of a number of private producers to the specifications and formulas of that particular manufacturer. Neoprene is made in several number of concerns. Each grade or type is different. The resistance of the different types of Buna-N to the action of gasoline and aromatics is in inverse proportion to their ability to stand low temperatures. We may well expect to see each manufacturer of Buna-N have a specialized line of different types of this raw synthetic, each made for particular uses. One company produced 53 new types of synthetic rubber last year. The compounding and curing of these by rubber manufacturers will determine the qualities of the finished product.

This calls for experience on the part of the rubber manufacturer, not only in compounding but also in knowing the requirements of industry for the finished product. To illustrate, a gasoline hose might be excellent in resistance to gasoline but might fail because it froze stiff in zero weather or sun-cracked in the hot summer. Some compounds shrink when saturated with oils or aromatics. A gasket in an oil line or a packer in an oil well which would shrink would manifestly soon cause leaks and fail in service. Some requirements call for non-swelling characteristics in fluids or gases. Others must have some swell to properly perform.

Now as to the influence of synthetic rubber on the oil industry:

One of the chief constituents of Buna-S, Buna-N and Butyl is butadiene. It is now generally agreed that the petroleum industry provides the most economical source for butadiene. Consequently, vast expenditures will continue to be made to oil concerns for this commodity. It will influence the industry's products for years to come. The values of leases, crude, gas wells and production may well be affected by the amount of butadiene recovery therefrom. Refining processes and engineering will be planned for greater or more economical butadiene production.

In addition to furnishing one of the chief raw materials used in making synthetic rubbers, the oil indus-

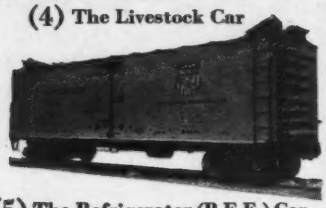


(3) The Covered Hopper Car

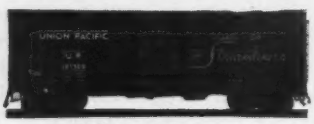
(2) The Tank Car

(1) The Hopper Car

(4) The Livestock Car



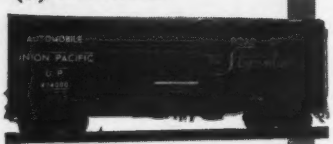
(5) The Refrigerator (P.F.E.) Car



(6) The Box Car

(7) The Gondola

(8) The Flatcar



(9) The Automobile Car

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Sturdily constructed and efficient in mechanical operation are the various types of freight cars pictured on this page. This safe, dependable rolling stock is a vital factor in providing transportation for the commerce of the nation.

Of special interest to the Petroleum Industry are the tank car and box car, Figs. 2 and 6, used for the shipment of fuel and equipment. Tank cars are supplied by the industry itself.

The trained knowledge and experienced skill of thousands of Union Pacific employees keep shipments rolling on schedule over the time-saving Strategic Middle Route, uniting the East with the West Coast. Experienced traffic specialists, from coast-to-coast, are ready to assist you. Let them help you with your *next* shipment.

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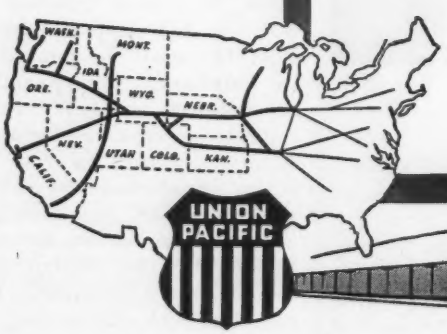

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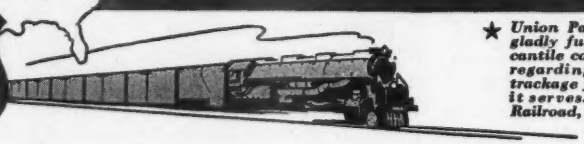


★ *Union Pacific will, upon request, gladly furnish industrial or mercantile concerns with information regarding available sites having trackage facilities in the territory it serves. Address Union Pacific Railroad, Omaha 2, Nebraska.*

UNION PACIFIC RAILROAD

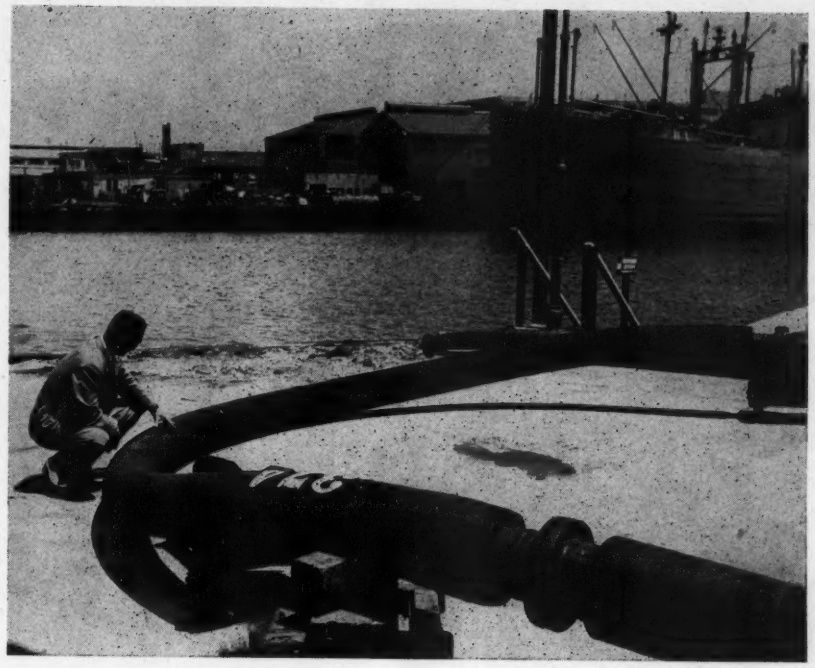
The Strategic Middle Route

try will be one of its largest consumers in the finished, fabricated state. Natural rubber is ruined by constant contact with oils, gasoline or petroleum gases. These volatiles are the natural solvents of natural rubber. The same is true of Buna-S. Consequently, the excellent oil-resisting qualities of Buna-N and Neoprene when properly compounded result in products which last many times as long in service as do the same articles made from natural rubber.

The tube of rotary drilling hose must stand days and months of abrasion by the mud and cuttings. Natural rubber was ideal for this purpose. However, new practices in drilling frequently call for the use of crude oil or mud containing oil. Deep drilling has increased the temperature of the mud which runs through the hose. The combination of heat and oil is ruinous to natural rubber or Buna-S rotary hose lining. High pressure types of hose are used extensively in oil-circulating, well-cleaning systems. Synthetic oil-resisting rotary hose tubes are now performing excellently and may eventually be adapted as standard by manufacturers. Mud pump pistons, gland and swivel packings, valve inserts and gasket materials made of oil-resisting synthetics now make possible drilling procedures which would not have been practical when using natural rubber in this service. Hose of oil-resisting synthetic constructions can now be made for use as flexible connecting lines between gas lines or fuel tanks and the driller's boilers or engines. Formerly only pipe could be used. Hours of valuable labor in rigging up or moving of locations are thus saved.

New Fields Opened

In oil production the oil-resisting synthetics have opened fields formerly not practical for appliances requiring a resilient or stretchable material as a part of their functioning. Polish rod, tubing, and drill pipe wipers now last indefinitely because the rubbers are not ruined by action of oils. Packer rubbers are now made from synthetics which will not swell except from compression. Results are that the same rubber may be used many times.



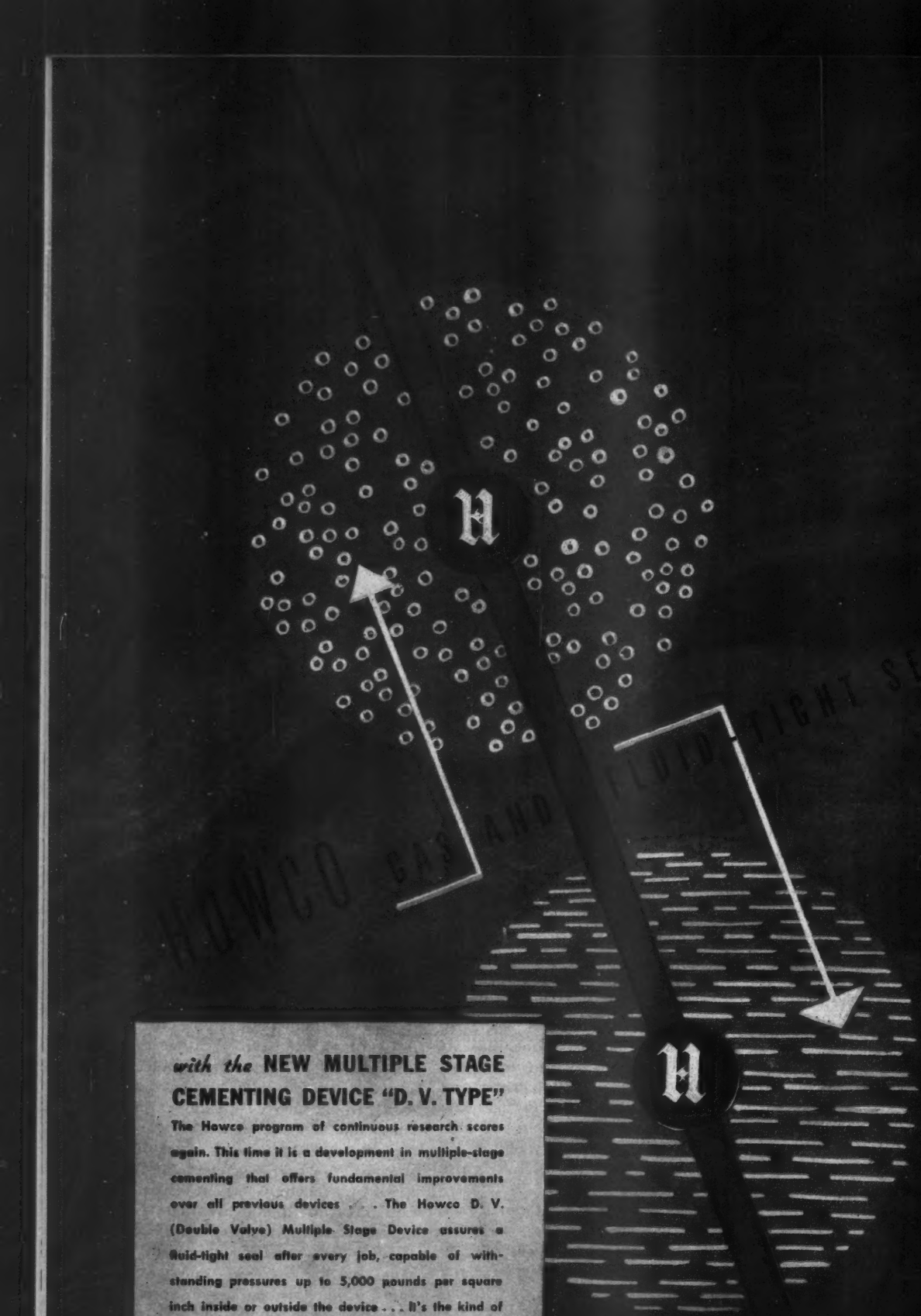
Sea Loading Hose In Operation. General Petroleum Operations at Terminal Island.

The life of stuffing box rubbers and rings will be materially increased. When the armed forces can release the materials and equipment; rubber companies can furnish flexible hose connections made of oil-resisting synthetics adhered to steel wire braids which will eliminate vibration for pipe line operators at pump stations. These will be particularly desirable when used with the portable type of field gathering pipe line pumps.

Gasket material from specially compounded natural rubber has always given good service in bolted-steel tanks when storing water and crude oil. However, this material was inadequate for storing gasoline, hot oils, etc. The Army and Navy have been able to successfully store thousands of gallons of aviation gasoline in bolted-steel tanks by using a gasoline-resisting synthetic gasket material which was worked out jointly by the engineers of the armed forces, the bolted tank manufacturers and the rubber company chemists. It will be common practice to use bolted-steel tanks for storing gasoline and refined products.

Improved by Synthetics

Gasket materials, molded rubbers and oil-resisting types of hose are greatly improved by using synthetics instead of natural rubber compounds in refineries and gasoline plants. Here expert compounding and knowledge by the rubber manufacturer of ultimate end-use requirements is a **must.** Failure of a gasket may cause fires or accidents. Oil resistance from Buna-N or Neoprene synthetics is easy for the rubber chemist, but to combine oil-resistant qualities with ability to withstand the extremes of intense heat or subzero weather is a difficult task. The acids, chemicals and oils around refineries have always ruined more fire hose than has actual service. A new fire hose recently was announced which has a synthetic rubber cover not injured by acids and oils. It will also remain pliable in cold weather. For many years a gasket known as No. 1771 G.O.P. has been standard for tank-car dome covers and outlet caps. This is a combination of a synthetic compound and natural rubber. It is used as gasket material handling mineral seal oil and gasoline in gasoline plants. Just recently chemists have been able to eliminate the natural rubber and use the new oil-resisting synthetics.



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The Howco program of continuous research scores again. This time it is a development in multiple-stage cementing that offers fundamental improvements over all previous devices . . . The Howco D. V. (Double Valve) Multiple Stage Device assures a fluid-tight seal after every job, capable of withstanding pressures up to 5,000 pounds per square inch inside or outside the device . . . It's the kind of development every well informed operator will want to know about and use . . . Write for details, or ask the nearest Howco representative for the story.

Comparison Chart—Synthetic Rubber Products

(The data presented cover only generalized types of synthetic rubber. Individual properties may be developed by special compounding, as suggested by the ranges shown in the table. The data are intended to provide the user of mechanical rubber goods with general information about synthetic rubber and should not be used as the basis for making specifications. Definite recommendations as to the exact type of compound for a specific product should be left to the rubber product manufacturer.)

PROCESSING PROPERTIES:	NATURAL RUBBER	BUNA-S (GR-S) TYPE	BUNA-N (GR-A) TYPES	NEOPRENE (GR-M) TYPES	BUTYL (GR-I) TYPE	THIOKOL POLYSULFIDE (GR-P) TYPES
Form in which available	Latex and Solid Forms	Latex and Solid Forms	Latex and Solid Forms	Latex and Solid Forms	Solid Form	Dispersion, Solid and Powder Form
Breakdown	Very Good	Good	Fair	Good-Very Good	None	Slow
Plasticity Range after Breakdown	High-Low	High-Low	High-Medium	High-Low	Medium	High-Low
Building Tack and Cohesion	Excellent	Fair	Fair	Very Good	Good	Fair-Good
Vulcanizability	Very Good	Very Good	Very Good	Very Good	Fair-Good	Fair
General Processability	Very Good	Good	Fair	Good	Fair	Fair
Physical Properties:						
Extensibility	Excellent	Good	Good	Excellent	Excellent	Good
Resilience	Excellent	Good	Fair-Good	Very-Good	Low	Good
Tensile	Excellent	Fair-Good	Very-Good	Very Good	Good	Fair
Electrical Properties	Excellent	Excellent	Fair-Poor	Fair	Excellent	Fair
Impermeability to Gases	Good	Good	Very Good	Good	Excellent	Excellent
Impermeability to Water	Good-Very Good	Fair-Good	Fair-Good	Fair-Good	Very Good	Very Good
Resistance to:						
Plastic Flow	Excellent	Good	Good	Fair	Fair	Poor
Abrasion	Very Good	Good-Very Good	Excellent	Good	Fair	Poor
Tear	Very Good	Poor-Fair	Fair-Good	Good	Fair-Very Good	Fair-Good
Heat	Fair	Very Good	Excellent	Fair-Good	Fair	Poor
Cold	Very Good	Very Good	Fair-Very Good	Fair-Very Good	Good	Fair-Good
CHEMICAL PROPERTIES						
Resistance to:						
Air	Fair	Good	Good	Excellent	Excellent	Excellent
Ozone	Inadequate	Inadequate	Fair	Excellent	Excellent	Excellent
Light	Fair	Poor	Fair	Excellent	Excellent	Excellent
Petroleum	Poor	Poor	Excellent	Good	Poor	Excellent
Aromatic Oils	Inadequate	Inadequate	Fair-Good	Poor	Inadequate	Excellent

There now is a new 1771 which is unaffected by oils or gasolines and has additional desirable features such as abrasion resistance and pliability in cold weather. The life of tank-car gaskets will be multiplied several times.

Adhere to Fabrics

Rubber chemists have now learned how to make the oil-resisting synthetic rubber adhere to fabrics. Natural rubber adheres readily, but the oil-resisting synthetics do not.

This knowledge is now being applied to thousands of lengths of synthetic rubber, oil and gasoline suction or discharge hose in servicing the Navy in the Pacific. This hose will lengthen the service received from dock and loading-rack hose.

The marketing divisions of the oil industry can look forward to improved service from every type of hose. Loading-rack hose which can be lowered into tank-car or tank-wagon domes for bottom loading will not affect or be effected by the gasoline. Filling station pump hose, unhurt by gasoline, will remain pliable winter and summer. Hose has been developed with synthetic rubber covers which can be exposed to the hot sun for indefinite periods without cracking or peeling. Commercial use of propane and butane is expected to increase materially. There has been a decided hazard when handling these volatiles through hose. Safety engineers will be glad to learn of a new flexible hose made of fine steel wire braids combined with oil-resisting synthetic rubber which will not burst at pressures of 2000 pounds and over. Should the hose be punctured, the gas will come out slowly and not injure the workman. The armed forces take practically all of this new synthetic hose today. It will be available to the oil industry soon.

Tank Protection

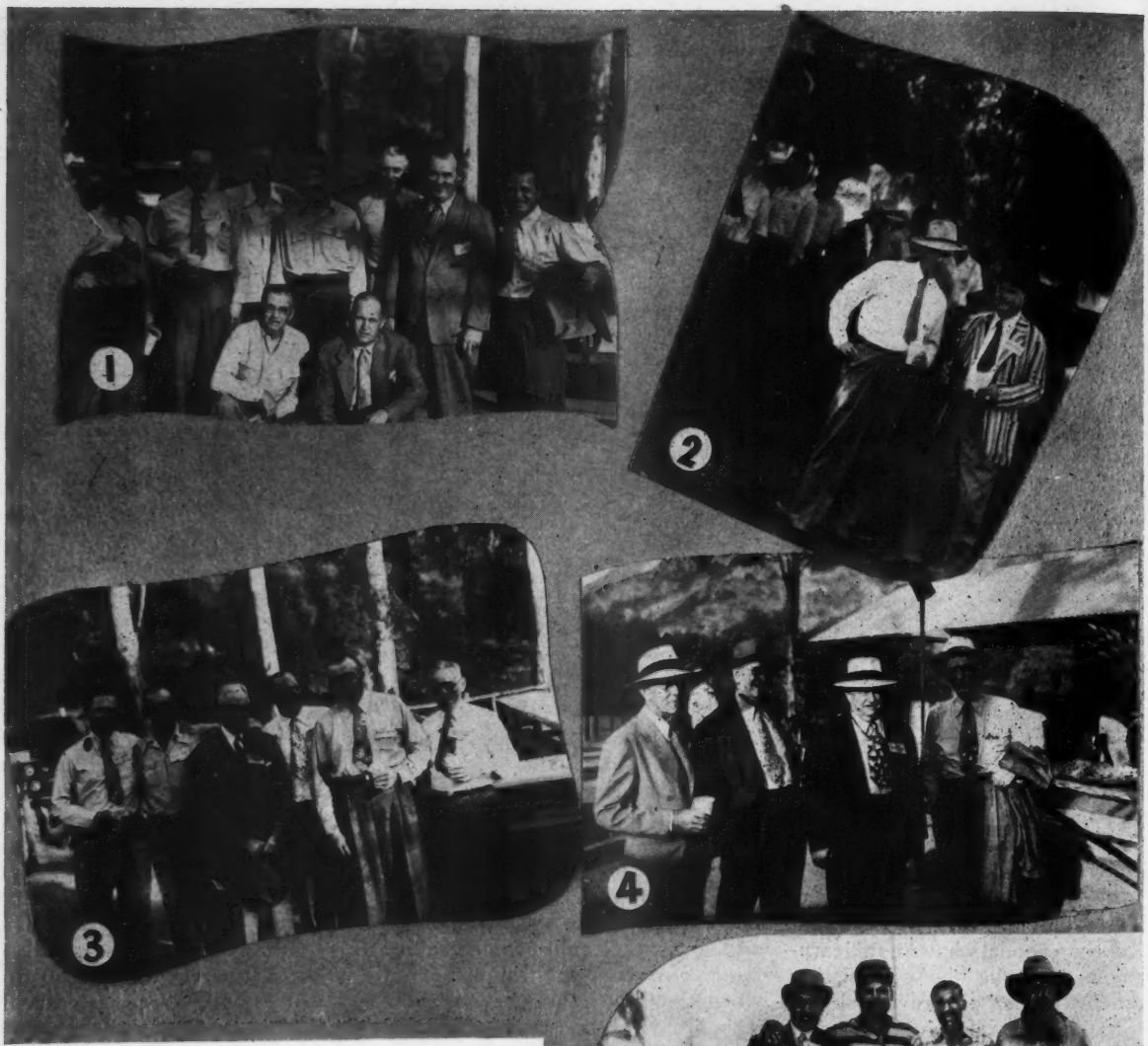
The handling of caustics and acids mixed with oil prevented the use of rubber-lined tanks before the advent of the new oil-resisting synthetic rubbers and plastics. Rubber chemists have every reason to believe that the improved synthetics which are to come will make this type of metal protection in tanks available to the oil industry.

This article only briefly highlights a few of the effects of the synthetic rubber industry on the oil industry. New forms of these synthetics are being perfected. Oil company engineers are closely following these developments. A word of warning is therefore in order.

In designing new equipment or writing specifications covering synthetic rubbers for oil industry use, do not attempt to specify the type of synthetic to be used. It is better to present the problem to experienced rubber company engineers and chemists who will know the limitations as well as the good qualities of each synthetic. They will know how to compound and vulcanize same without the handicap of meeting just a few requirements set up by the designing engineer. A properly compounded synthetic rubber can do wonders. By the same token, lack of consideration of even one end-use requirement can result in miserable performance.

Culp Wildcat Ends Oil Search

Efforts of Union Oil Co. to recover drill pipe stuck at 5434 ft. in its Culp No. 1 in Sec. 7-2s-11w in the Pico area, Los Angeles County, evidently were without avail and the try is destined for abandonment. Bottomed at 5950 ft., all pipe possible will be recovered. The company's Hellman No. 58 test in Sec. 27-3s-13w in the Dominguez area is drilling at 6250 ft. Simi No. 7, a venture for oil in Sec. 22-3n-17w in the Simi wildcat area is idle at 300 ft., caused by trouble with running sand.



Petroleum Production Pioneers' Annual Barbecue

1. Jim Kibre, Dan Hudelson, Hal Marsh, Glenn Merkley, Warren Johnson, Bob Cook and Frank McAteer. Seated: C. J. McLaren and Monk Cook.

2. Geo. Sullivant and Ted Sutter.

3. Dan Hudelson, Lin Little, Billy McLaine, Woodie Wood, Rod Durkee and Doc Miller.

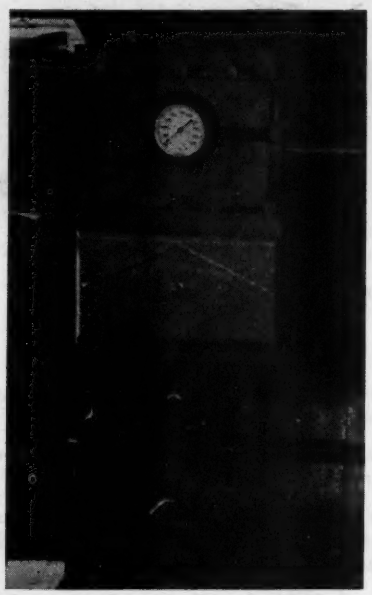
4. Dick Smith, Dick Sperry, Mike Lang and Dick Guiberson.

5. Joe Siegel, Ox Morgan, Chas. Perkins and F. F. Hill.

6. R. C. Baker, Denny Driscoll, Billy McKnight, Pete Garretson, E. W. Randolph, Pat Patterson, Elmer Bolton and Ed Perkins.

PRESSURE-TESTING 4" LINE PIPE IN OUR YARD

Another OIL TOOL SERVICE *for* OUR CUSTOMERS



High Pressure Piston Pump—2500 lbs. W.P.

All tubing and line pipe sold by the Oil Tool Corporation is submitted to cold water pressure test in our own yard—on our modern testing equipment—before delivery, to insure long life and trouble-free service. All collars and threads are closely checked for proper size and serviceability. Internal condition and diameter are determined by passing a steel drift through each joint—eliminating any possibility of wax or other restriction of passage.

The Oil Tool Corporation

3075 Cherry Ave. Long Beach 7, Calif.
Phone 481-81 L. A. Phone NEvada 610-24

Petroleum Production Pioneers' Annual Barbecue

7. Bartenders: Lee Bushard, Hudson Drake, Geo. Trembley and Ted Forsyth.

8. Chas. Perkins, Earl Daniels, Bill Boatman and Mac Kelley.

9. Russ Green, Earl Crawford, Jack Long, Tom Bannan, Gene Davis, Walt Greenfield and Ed Larson.

10. Ward Blodget, Warner Parker, R. A. Broomfield and H. S. Armstrong.

11. Clarence Paulsen, Ed Perkins, Ed Webb, Clarence Hill, Gene Tiffany and Denny Driscoll.

12. Bob Roberts, R. C. Stoner and Stark Fox.

13. Dad Wilcox, Doc Miller, Ted Jurling, Garth Nicholson, Gird Mullins and Woodie Wood.

14. Ernie Fowks, Clint Eddleman, E. Henderson, Russ Green, Owen Haynes, Ed Larson, Earl Daniels and Swede Larson.

Petroleum Production Pioneers' Annual Barbecue

15. Stark Fox, H. C. Wood, Joe Spellany, Art Perris, Harry Simpson and Dad Ripley.

16. Lou Bronzan, Dick Sneddon, Geo. Trembley, Ox Morgan, Ernie Fowks, Jim Gosline and Joe Siegel.

17. Ward Blodget, Wally Rushing, Lin Little and Auten Bush.

18. H. S. Armstrong, Al Forrow, Custer Morrow, Jack Brown, Jack Ballagh, Norman L. Dorn, Joe Swaton. (Sitting): Earl Cater and Billy McGraw.

19. Al Forrow, Earle Moore, B. M. Landis, Bill Riggins and Chas. Perkins.

20. Jack Brown, Geo. Brown, Slats Pryor, Fred Crippen, Bill Forker, Bill Brooks, Les Black, Sam Forman, Larry Coker, Jack Bagnall, J. O. McFaddin, Bill Furman and Mercer Parks.

21. Duke Follansbee, Earl Moore, Geo. Coffey, Tine Gaiser and Ed Stearns.

22. Dick Sneddon, Lou Bronzan, Joe Siegel, Tom Hickey and Bob Supler.

ELECTRONIC SLEUTH TRACKS DOWN CORROSION

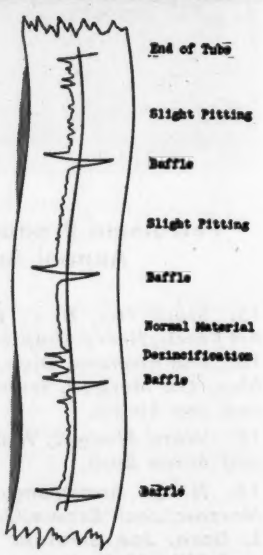
Probolog in use inspecting tube bundle. Picture shows (A) probe puller withdrawing probe at constant rate, (B) recording instrument charting condition of tube.

New Shell Probolog permits detection of defects in tubular equipment . . . with tubes in place . . . before failure!

The PROBOLOG locates eroded and corroded pits, dezincification, cracks, strained areas, and abnormal changes in physical dimensions in non-magnetic metallic tubes. Defects are spotted accurately and quickly.

With the PROBOLOG, your maintenance check-ups will be well *ahead* of trouble . . . ahead of sudden tube failures that cause emergency shutdowns. No more good tubes removed by mistake . . . no more bad tubes left in place!

For more information, communicate with the Shell Development Company, Incorporated, 50 West 50th Street, New York 20, New York.



Actual chart made by Probolog showing defective isobutane condenser tube.

SHELL

SHELL DEVELOPMENT COMPANY, INCORPORATED

Nomads' Annual Wing-Ding

1. Gilbert Nesheim, A. S. Hayes, O. J. Magary and Joe Aderhold.

2. O. M. Slosson, H. G. Stevenson and J. D. McClendon.

3. E. L. Decker, Mel Cooper, Al. Baptie, Ted Mitchel and Ward B. Tennis.

4. J. M. Connors, W. W. Farrar, L. P. Sacre and R. H. Tecklenborg.

5. Cliff Dunseth, T. E. Pinching, John DeHetre, Jim Harder, W. H. Lambert and T. C. Lemcke.

6. Ernie Adams, Pete Maxfield, Ollie Branyon and Frank Schlemmer.

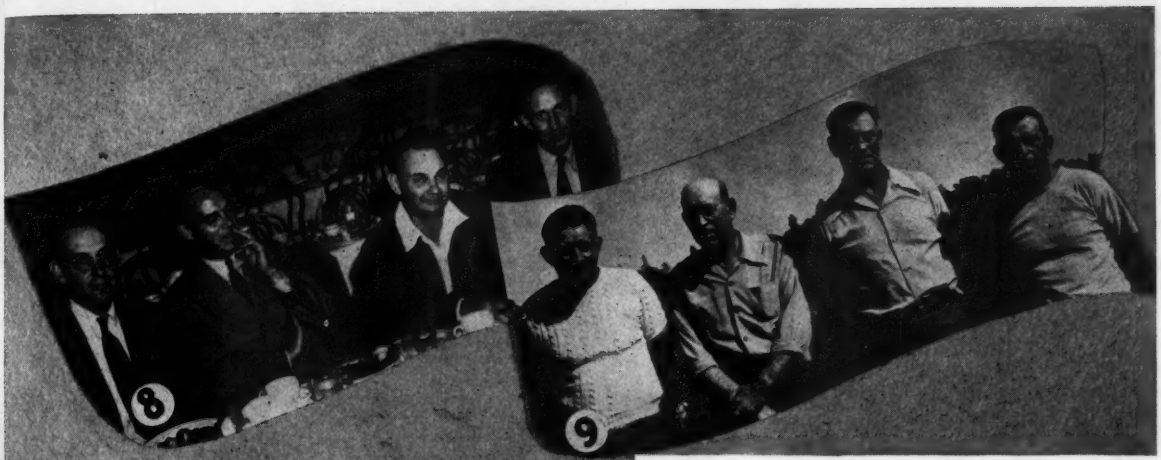
7. J. H. Hayter, R. Paul Huggins, Ralph Clemons and T. F. Wissenbach.

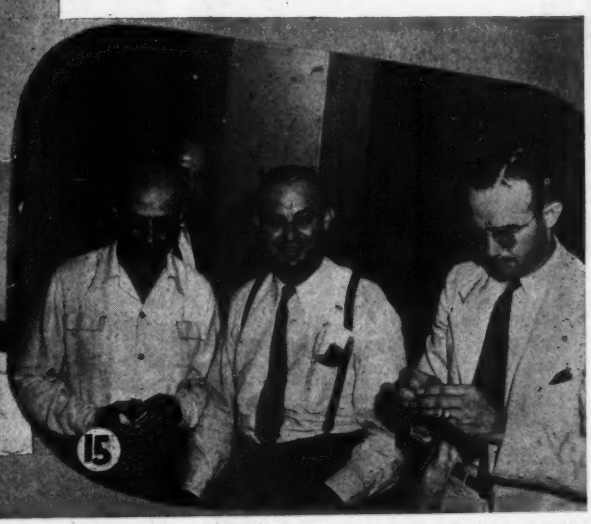
H.C. Smith Rock Bits
for
Faster, Straighter, Full gauge Hole

TYPE 4

TYPE K-2

H C Smith
Oil Tool Co.
GENERAL OFFICES AND PLANT
P. O. BOX 431, COMPTON, CALIF.





Nomads' Annual Wing-Ding

8. Unidentified.

9. Carl Gates, Bruce Hall, Walter Greenfield and Roy Barnhart.

10. Bill Bettis, Dr. R. F. Beauchamp, Andy Anderson, J. H. Flanagan and J. W. Clampitte.

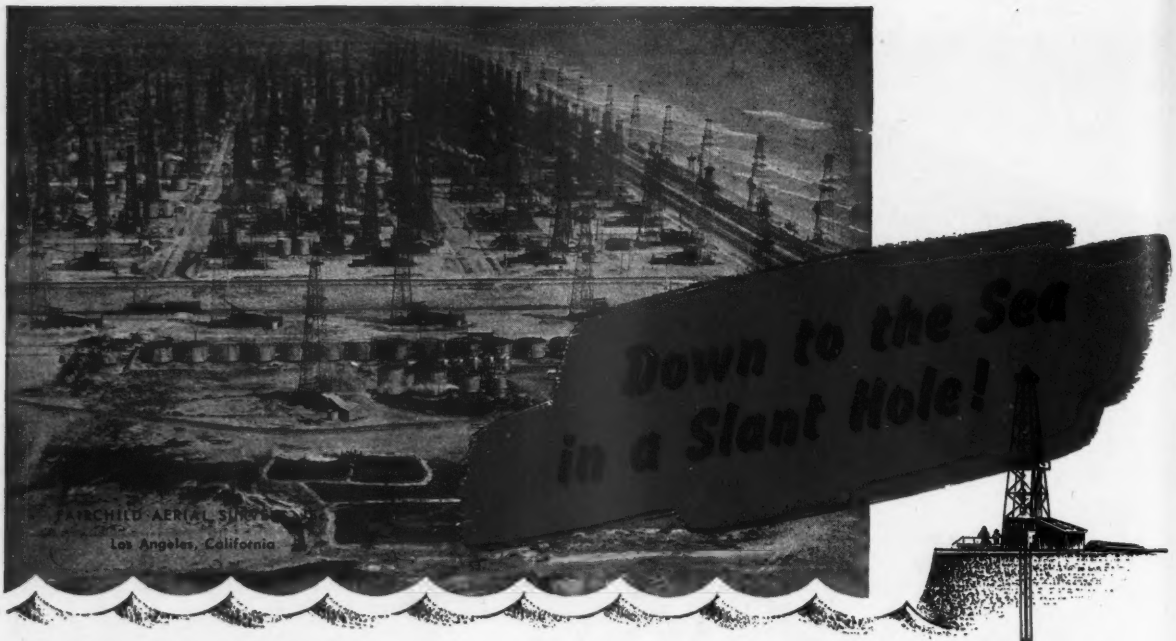
11. Robert Plane.

12. Ron Smith.

13. Paul Cavins, Don Tueber and Waldo Moore.

14. Glenn Pitts, Byron Landis, Lloyd Hill and Al Lasken.

15. Jack Ballagh, Henry Grinnell and Val Forsythe.



CASE HISTORY NO. 19

Maybe this never happened to you

but it's SOMETHING TO REMEMBER about friction!

When you're aiming for oil far off shore under the sea and your drill pipe is rolling on its side inside the casing, there's plenty to worry about. Running your pipe in and out of a hole that's nearly 70° off the vertical is a real problem, especially 3½ inch drill pipe in 6⅝ inch casing.

The way a California operator solved this problem gave us a new, though unusual reason for using Patterson-Ballagh Casing Protectors. Good progress had been made to a point. Suddenly when attempting to run pipe in after a bit change, it was no go! Nothing in the bag of tricks would help until the driller installed Casing Protectors. Acting as bearing surfaces to hold the drill pipe off the casing and the open hole formation, they centered the pipe and allowed it to run in smoothly.

MORAL: Vertical as well as rotary friction can be destructive to Pipe and Casing. It's the best idea to use a Casing Protector on every joint in the string for 100% protection whether in a slant hole or straight. In these times of critical steel shortages, it is one way to keep your rig on the job.

Specify

PATTERSON-BALLAGH

A DIVISION OF BYRON JACKSON CO.

"Best Bet Yet"

CASING PROTECTORS

Main office:
1900 E. 65th Street
LOS ANGELES 1

★ 6247 Navigation Blvd.
HOUSTON 11

★ 92 Liberty Street
NEW YORK 6

★ 210 Post Street
SAN FRANCISCO 8

THIS

LAUGH

OFF!!

I guess you'd call her an old-fashioned girl . . . at least that's all she ever drinks.

A lease broker we know has started taking highballs for his insomnia. He finds that if they don't put him to sleep they make him satisfied to stay awake.

"Mummy, do they have oil wells in Heaven?" asked the three-year-old.

"No, dear. They have to have drillers before they can have oil wells," replied mother.

"Now, really, Private, in civilian life, would you come to me with a trivial complaint like this?"

"No, Captain, I'd send for you."

"Are you allergic?"

"No, I'm Harry."

"Were you inoculated?"

"No, I was drafted."

"Got your appendix?"

"I haven't been issued one yet."

"My God man, don't you know the King's English?"

"The hell he is."

Two old gentlemen were sitting comfortably in their easy chairs at the club enjoying an after-dinner cigar.

Said one to the other:

"Every time I come here my wife thinks I'm out chasing women. Gad—I wish she was right!"

The exasperated judge finally banged his gravel and thundered:

"Silence in the court. Half a dozen men have been convicted without the court's being able to hear a word of testimony."

Remember that as a matter of physiology, the difference between a pat on the back and a kick in the pants is just one foot.

She laughed when he sat down, but when he started to play!!!!"

"Do you realize you have been late every day this week," growled the boss.

"No sir, I didn't," replied the employee. "I'm not one of those clock watchers."

Tess: "I'll never marray a man I don't love."

Bess: "Suppose a millionaire wanted to marry you?"

Tess: "I'll love him, that's all."

Joe: "For months I couldn't discover where my wife was spending her evenings."

Moe: "How'd ya find her?"

Joe: "One evening I went home and there she was."

Justice: "You are hereby fined $4.98."

Defendant: "But, your honor—"

Lawyer: "Sit down, quick! That's a mail-order catalog he's looking at and you're just lucky he opened it at pants instead of fur coats."

A real estate salesman of West Texas had just finished describing the glorious opportunities of that part of the country. "All West Texas needs to become the garden spot of the world is good people and water," he said.

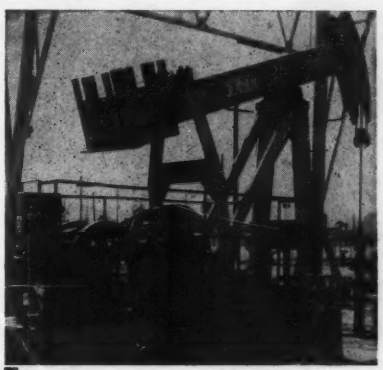
"Huh," replied the East Texan. "That's all Hell needs!"

"The American is a queer person," said the Chinese visitor. "He boils water to make tea hot. Then he adds ice cubes to make it cold. And a spoonful of sugar to make it sweet. Then the juice of a lemon to make it sour. He stirs it well, lifts the glass in a cordial manner, says 'Here's to you!' and drinks it himself."

New Office Boy: "I have added these figures up eight times, sir."

Employer: "That's very good and thorough."

"And here are the eight results."



A PINT OF LIKKER USED TO DO THE TRICK

Time was when you could give a customer a pint of "likker" and he'd buy anything.

Those days are gone and good riddance, we say.

Oil is serious business and for 26 years we have been dead serious about the way Jensen Pumping Units are made and sold. No fancy frills—big and little customers always treated alike. Ask them—customers are our best salesmen.

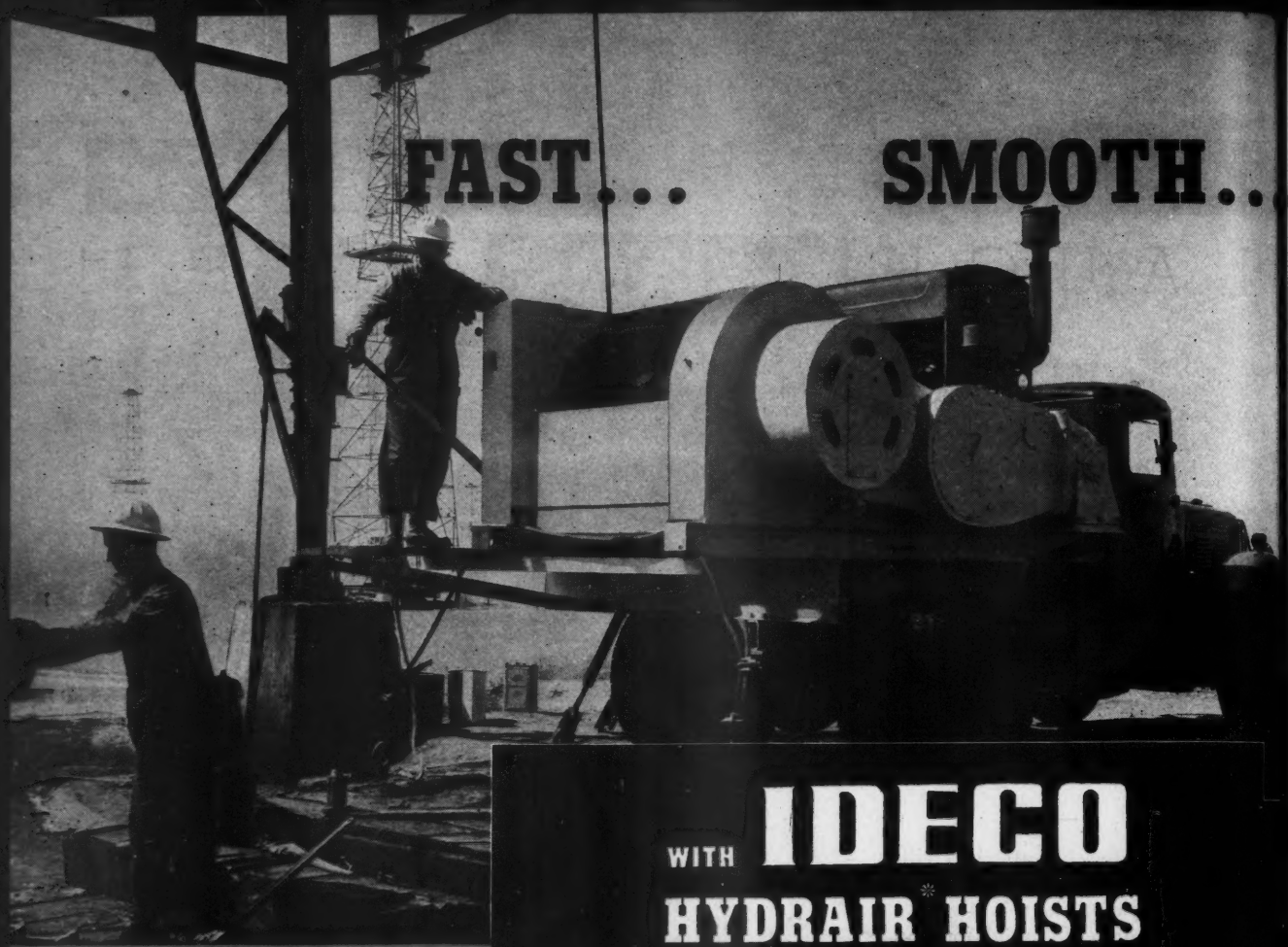
Stocked by

THE OIL TOOL CORPORATION
3075 Cherry Avenue, Long Beach, Cal.
Phone 481-81

JENSEN BROTHERS MFG. CO.

14th and Pacific Streets
COFFEYVILLE, KANSAS, U. S. A.

EXPORT OFFICE, 50 Church St.
New York City



WITH IDECO HYDRAIR* HOISTS

*HYDRAIR = HYDRaulic POWER + AIR clutches

TRAILER MOUNTED

TRUCK MOUNTED

SKID MOUNTED

HYDRAIR FLUID DRIVE Supplies:

- Power
- Speed
- Flexibility

AIR OPERATION Provides:

- Smoothness
- Flick-of-the-wrist control
- Responsive performance

FOR OIL, GAS AND WATER WELLS THESE FIELD-PROVED RIGS PROVIDE MANY ADVANTAGES...SURPASS CONVENTIONAL RIGS...

Why? Because Hydrair Hoists are fluid-powered . . . flick-of-the-wrist air-controlled . . . and driven by direct air clutches. Ease and smoothness of operation makes possible *more work with less effort.* Because Hydrair Hoists provide more working horsepower at the hook . . . furnish 30% faster hoisting.

Infinite, variable speed without gears through the combined use of a torque converter and a "HI-LO" instantaneous speed change arrangement. Fluid power automatically adjusts speed ratios to the most favorable operating conditions . . . gives maximum speed for raising empty block and maximum pull for coming out—instantly—without shock or clutch slipping.

A single lever for high, low, neutral and throttle operates all air controls . . . no maze of foot pedals and hand levers.

Direct air clutches require no adjustment . . . no lubrication . . . provide positive and complete disengagement—no wear when idling.

Ideco Hydrair Hoists are supplied in single or double-drum models, and in three sizes—25,000 lbs., 30,000 lbs., and 40,000 lbs., maximum single line pulls. They are normally furnished as truck or trailer-mounted units in combination with Kwik-Lift Telescoping Masts. They may also be used as skid-mounted hoists under conventional derricks or cantilever masts.

Stock deliveries! Cantilever Drilling Masts o

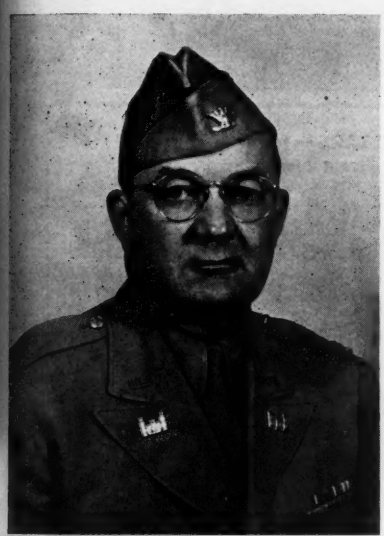
IDECO
ONE OF THE DRESSER INDUSTRIES

INTERNATIONAL DERRICK

Personalities IN THE NEWS

Flannery Joins Hendy Iron

Charles A. Flannery, former Colonel, Corps of Engineers, has joined the Joshua Hendy Iron Works, Sunnyvale and Torrance, California, as Manager of General Products Sales, according to announcement made by Harry C. Gunetti, General Manager.



Chas. A. Flanney

Mr. Flannery, prior to the war, was sales manager of plate fabrication for Consolidated Steel Corp. and vice president and West Coast manager of Industrial Engineering Co. He has been identified with sales and engineering work continuously since graduation from the University of Illinois in 1917.

In his new position at Hendy, Mr. Flannery will supervise sales of hydraulic and mining equipment, valves, gears, and all kinds of special custom-built machinery. He will assist Cliff Patch, recently appointed Sales Manager, Western division.

Hendy sales volume for the coming 12 months is estimated at over $15,000,000, and there is a large backlog of orders in hand.

Mr. Flannery is married and the father of two married children. His hobby is the taking of colored movies, of which he has over 5000 feet taken during his travels throughout the western hemisphere.

Dr. Egloff to Lecture in England

At the invitation of the Institute of Petroleum of Great Britain, Dr. Gustav Egloff of Universal Oil Products Company will deliver a series of lectures before various local chapters of the Institute in England, Scotland, and Wales. He will also lecture at Oxford and Cambridge universities, and will address the Catalyst Club of England, in London. His subjects are "Catalysis in the Oil Industry," "Petroleum as a Chemical Industry," and "Modern Products from Crude Oil."

He leaves Chicago on August 5, by air, for London. On August 20, he will fly from London to Gothenburg, Sweden, to join a party of American scientists and technologists who will visit the universities and the centers of scientific and industrial research of the Scandinavian countries, at the invitation and under the auspices of the Royal Swedish Academy of Engineering Research.

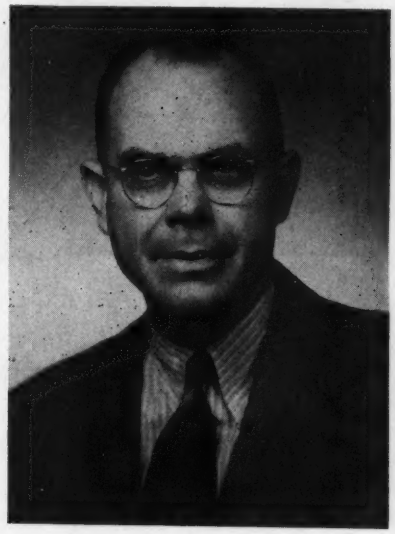
Dr. Egloff expects to fly from Oslo, Norway, to Chicago on September 6 to attend the 110th annual meeting of the American Chemical Society in Chicago.

George Atha, widely known geologist and engineer, has returned to his Los Angeles headquarters, following a trip to Waynesburg, Pa., where he attended funeral rites of his mother, Mrs. W. Hunter Atha, who died at the age of 71. In addition to George, she is survived by her husband and three sons, Robert, John and Hunter, owners of a Michigan contract drilling organization. Last rites for Mrs. Atha, brought her four sons all together for the first time in 20 years.

Harger Steps Up at Standard

Appointment of D. K. Harger as manager of all refining divisions at the El Segundo refinery has been announced by Standard of California.

Harger joined Standard in 1926 and has spent 13 of his 20 years



D. K. Harger

with the company at the El Segundo refinery. His latest position was superintendent of the light oil division at the company's Richmond refinery.

His home is in Richmond, Calif.

Loren Hillman has devised a new system to beat the bangtails. Friends heard that he first used the new method before taking his beautiful daughter Joanne to the track one day. Nine dog biscuits were each marked with a number from one to nine and strewn around the living room of the Hillman abode. Thereupon, the family pup, Muffin, was called in and without any coaching was allowed to choose a biscuit. His pick was number nine, which he soon devoured. That same day at the track, Joanne wagered on horse number nine and it won surprisingly in a canter, friends reported.

IF...
YOUR PROBLEM INVOLVES GEARING, We'll Help You Solve It...

You can turn your gear-designing problems over to us with confidence. No problem of mechanical power transmission is too "tough" for our engineers; no job too simple.

Industry leaders in the fields of Aviation, Marine, Mining, Petroleum, Lumber, Pulp and Paper and others, have successfully used our engineering, designing and manufacturing experience to solve their power transmission problems.

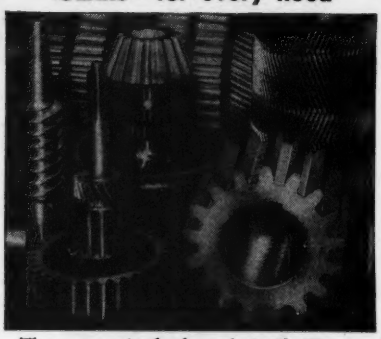
This experience, gained in over 50 years of service to Western industries, is available to you. Call, wire or write the nearest of our three West Coast plants for engineering counsel and service.

PACIFIC GEAR & TOOL WORKS — WESTERN GEAR WORKS

PACIFIC-WESTERN

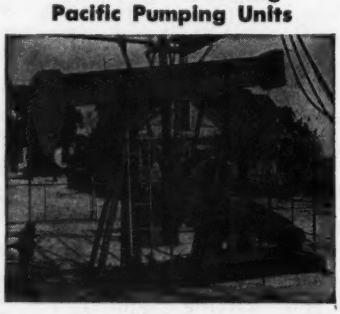
Plants and Offices: SEATTLE, SAN FRANCISCO, LOS ANGELES, LYNWOOD
Sales Representatives: Portland, Salt Lake, New York

GEARS — for every need



Three conveniently located Pacific-Western plants are equipped to turn out a wide range of gears—continuous tooth herringbone gears, hob cut herringbone gears, helical, spur, spiral, worm, hypoid and zerol bevel gears.

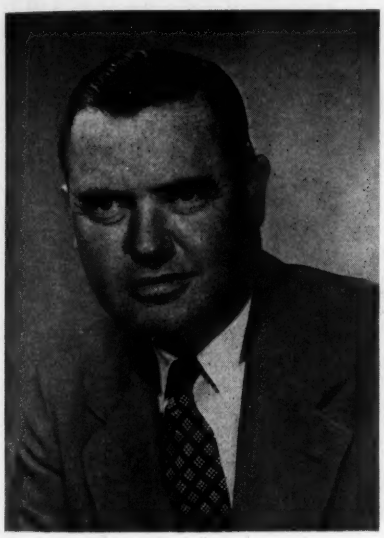
New Rust-Resisting Pacific Pumping Units



A new and special rust-resisting protective finish now is used on all Pacific pumping units. It defies rain, snow, fog, frost and humidity; does not crack, chip or peel; cuts maintenance costs and keeps your pumping unit looking "ship-shape". Pacific pumping units are known, also, for their unexcelled herringbone-type reducers, improved bar-type pitmans with self-aligning bearings, economy counterbalance and safety-brake

Wm. J. McClung Advanced by Bethlehem

Announcement has been made by T. S. Clingan, Vice President, Bethlehem Pacific Coast Steel Corporation of the appointment of William J. McClung as General Manager of the company's steel plants and mill depots. Mr. McClung will be in charge of operations of Bethlehem Pacific's steel plants in Seattle, South San Francisco and Los Angeles, and mill depots at Seattle, Portland, San Francisco and Los Angeles. His headquarters will be at the South San Francisco Plant.



Wm. J. McClung

Mr. McClung comes to the Bethlehem Pacific organization after more than fifteen years of service at the Lackawanna, New York plant of Bethlehem Steel Company, where he has been Assistant to the General Manager since March, 1945.

A native of the West, Mr. McClung was born in Phoenix, Arizona and graduated from the University of Southern California in 1930. He started in the employ of Bethlehem Steel Company in that same year, after working for a short time on the Hetch Hetchy aqueduct project for the city of San Francisco.

Mr. and Mrs. McClung and their two daughters will reside on the San Francisco Peninsula.

Hayes and Sprague, who recently organized their own drilling contract firm, are about to start the drill in Richfield's interesting explorer in the Boyle Heights area of metropolitan Los Angeles. In the Newhall area, they have carried Seaboard's Mission Land No. 8-1 to around 6400 feet.

Pacific Drilling Co. of Long Beach is drilling a well for Carleton B. Wood at West Newport.

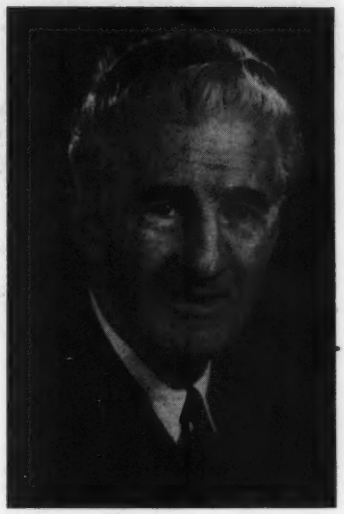
"Free Enterprise-Individual Opportunity" was the topic of an address given by Capt. A. A. Nicholson, world war veteran and assistant vice president of The Texas Co., before the Long Beach Chamber of Commerce. Capt. Nicholson, who began work with Texas Co. as a laborer, and occupied posts of educational director and personnel director before being elevated to his present position, has been addressing for eight years industrial, civic, school and other groups on the preservation of the American way of life. Enlisting as a private in World War I, Nicholson was a major when honorably discharged. His awards included the French Croix de Guerre and two U. S. citations for service on western front battle sectors.

Franklyn Phillips, long identified with the motion picture writing profession and the advertising field, has joined Sunset Oil Co. as public relations chief. He recently reported that J. P. Vezzetti, Sunset's vice president, was highly optimistic of the company's chances for developing new oil with its Meyers No. 1 drilling at West Newport.

Arrangements are being completed to fly four yearlings purchased at Saratoga Springs, N. Y. by A. T. Jergins, oil producer and turf enthusiast, to Los Angeles.

Glimpsed at the Del Mar racing meet was Stanley Anderson, Ring Oil Co., and many other members of the Los Angeles oil fraternity.

For some months Russell Havenstrite has been planning a vacation trip in his private plane to Peru, a country whose beauty and enchantment has long intrigued the Los Angeles popular oil operator.



W. D. Smith, recently elected Secretary and Treasurer of the Wilshire Oil Co., Inc., has been connected with Wilshire since it was founded and has been engaged in administrative duties in all of its activities.

Russ had everything ship-shape and was just about ready to take his departure the other day with an accompaniment of friends when Barnes No. 7 in the Del Valle field decided to stage a surprising blowout, a development that called for Russ' attention and necessarily delaying the Peru sojourn. The well was placed on production weeks ago. Leaking gas from a shallow sand, a problem in previous producers in the area, caused the blowout. As soon as control is once more established, Russ probably will again cast his eyes towards the south.

Two veteran members of the industry have in recent days been inspecting prospective oil ground elsewhere than in California. Fred Gordon has been giving considerable attention to what undrilled ground near Abilene, Tex., may hold. E. J. Miley has been looking over several promising areas in Colorado. A number of California's most important discoveries were made possible by these two pioneers.

An outstanding event in Long Beach was the wedding of Miss Virginia Hancock Reid to Frederick Charles Moore. The bride is the daughter of Will J. Reid, president of Hancock Oil Co., and Mrs. Reid. Dr. Stuart LeRoy Anderson officiated.

"I like the way they engineer 'em"

Men who design piping, and are therefore responsible for its efficient performance, safety and permanence, really appreciate the fine engineering that goes into WeldELLS — and all other Taylor Forge Welding Fittings.

They like the reinforcement at the inner arc where bursting stress is greatest — the tangents that keep the weld away from high stresses caused by line movements due to expansion.

They like the seamless construction, dimensional accuracy and precision quarter-marked ends. They realize, too, that with WeldELLS they get not only a better job but also one which is likely to be less costly.

Please note that each of the features listed opposite either provides better engineering or promotes convenience and economy. If you'll consider them for just a moment we believe you'll see why almost everybody agrees that, of all welding elbows, WeldELLS alone "have everything."

WeldELLS alone combine these features:

- **Seamless** — greater strength and uniformity.
- **Tangents**—keep weld away from zone of highest stress—simplify lining up.
- **Precision quarter-marked ends**—simplify layout and help insure accuracy.
- **Selective reinforcement** — provides uniform strength.
- **Permanent and complete identification marking**—saves time and eliminates errors in shop and field.
- **Wall thickness never less than specification minimum**—assures full strength and long life.
- **Machine tool beveled ends**—provides best welding surface and accurate bevel and land.
- **The most complete line of Welding Fittings and Forged Steel Flanges in the World** — insures complete service and undivided responsibility.

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William D. Shaffer Passes Away

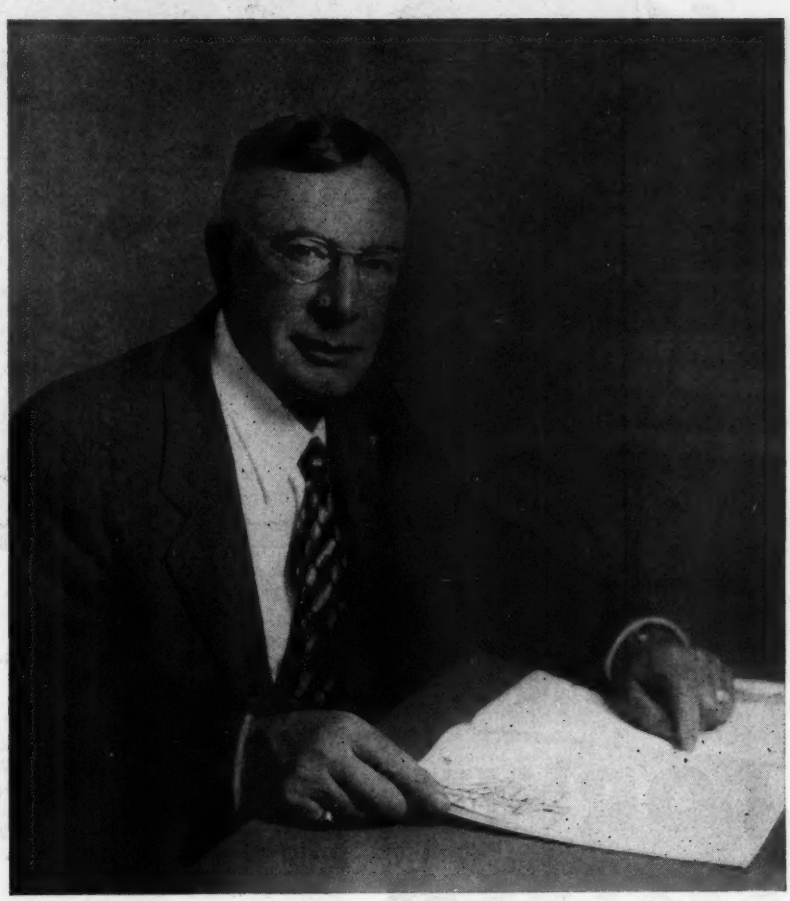
The many friends of Mr. William D. Shaffer, President of Shaffer Tool Works, were shocked to learn of his sudden death on August 6, 1946. Funeral services were held in Brea, California which was his residence and the head office of the widespread Shaffer organization.

Mr. Shaffer, aged 69, had been ill with an ailing heart, but his death was unexpected because it had been thought that a period of rest would restore him to good health. His son, Donald U. Shaffer, has been actively managing the firm for some time.

Known as "Bill" to hundreds of his friends throughout the oil fields of the world, Mr. Shaffer was a pioneer in the field of high pressure drilling control and safety equipment. He contributed greatly to oil field progress by developing and manufacturing oil tools of advanced design for increasing the safety and efficiency of deep hole drilling, thus facilitating modern deep-drilling methods.

He was born in Springtown, New York, February 16, 1877 and after living in Iowa for some years, he later came West to Tacoma, Washington, where he met his wife, Mrs. Edna U. Shaffer who survives him. They were married in Santa Paula in 1901.

He started his career when he became a superintendent of an oil tool shop in Olinda, Calif. In 1923 Mr. Shaffer became a partner with William Travers and Frank Schweitzer in the Brea Tool Works. Later the business was sold and Mr. Shaffer subsequently started the company which today bears his name. He began the active development of his many inventions to bring greater safety and efficiency to high pressure drilling operations, and used the high pressure fields then developing at Santa Fe Springs and Kettleman Hills as proving grounds. By continuously testing and perfecting every new piece of equipment he developed, and through his unusual ability to pioneer new and simplified methods of controlling well pressures, he advanced the name of Shaffer Tool Works to its present position as a leading manufacturer of drilling and control equipment.



William D. Shaffer

Mr. Shaffer was a 32nd degree Mason and a member of the Al Malaikah Shrine. He was Mayor of Brea for a period of over eight years and active in the Lions Club, having served as its president. He took active interest in civic and church affairs and was trustee of his church for many years. In addition to his wife, he is survived by his son, Donald U. Shaffer, two daughters and two sisters.

Huntington Beach has not forgotten the men who discovered and developed oil in that rich area. W. H. Gallienne, secretary of the Chamber of Commerce there has announced that these men will be honored at the postwar revival of the Black Gold Days Fete, scheduled as a companion attraction to the Southern California Twin Convention.

The Huntington Beach wildcat, Crew Community No. 1, sponsored by A. W. Lyddon, is making rapid time under the guidance of Tom Pike Drilling Co., which has a large number of contracts strings active in various California oil sectors.

The American Broadcasting Company chose three of the Los Angeles Basin's most prominent oil men for its recent program, called "Western Industry," and featuring a remote control pick-up of well drilling operations under actual field conditions. Studio voices representing the industry included Bill Pemberton, geologist and consulting engineer; Don E. Gilman, executive vice president of Western Oil and Gas Association, and Harold Wyatt, Union Pacific chemist. All of those who tuned-in, agreed it was a superb job.

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Then

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Write for Bulletin No. 124.

VERNON
TOOL CO., LTD.
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ALHAMBRA, CALIF.

Kern County OIL NEWS

TO KERN COUNTY'S SUN DRENCHED Empire this month with its "BILLION DOLLARS" in sunshine, came an extra dividend. . . . This time a hike in the price of oil in all grades and products, was filled with rays of hope. To some it meant more exploration and new business. For others extra dividends. Many an oilwig, however, remembered quickly that valuations would be up and taxes would be more.

EVEN THE CONSUMER had his say about the price of gasoline. "What good is it without a car?", said they all. One grouch complained. "His old bus used more gas than he could pay for now." In one section price cutters declared a truce in order to feel how good it was to get more money at the pumps.

TALK ABOUT PRICES reminds us that no area in the country can outdo what they do on Figueroa from LA to the sea. At war's first end the lure was cigarettes but nylons take the limelight. Such competition has not set in here, since Kern has more customers than it can handle now.

ANYWAY BYRON JACKSON has been credited with saying that trying to do business without advertising is like winking at a pretty girl through green glasses. You may know what you are doing but nobody else does.

VANCE VENABLES, Kern County Expert taxes, budgets, personnel has just informed us that we can multiply our little factor to or by $349,922,765.00 the current new assessed valuation figure handed him by Assessor Josh Hanks the other day. This is down over a million. **'We was** wrong'.

WEDDING BELLS RANG for Milo G. Erhard and Paul E. McGovney as they made altar marches earlier this summer. Our congratulations. "Long years of happiness with a few little troubles," accompany best wishes.

JOE BRYAN of Union Oil who reported drilling ahead and almost there in Edison's basement, corrected your scribe on some technical matters out of this world. The **fracture** appears within or on top of the granite, not under it. Sand loaded with oil was backed into the many crevices. Most of the drilling is from 150 to 300 feet after hitting granite. One well went 1500 feet but that was not a necessary trip. "No place in all the world like Edison," said that city's chamber of oil. Oil found there is like the recipe for making rock soup. Put the ingredients around granite that make oil and you get oil every time.

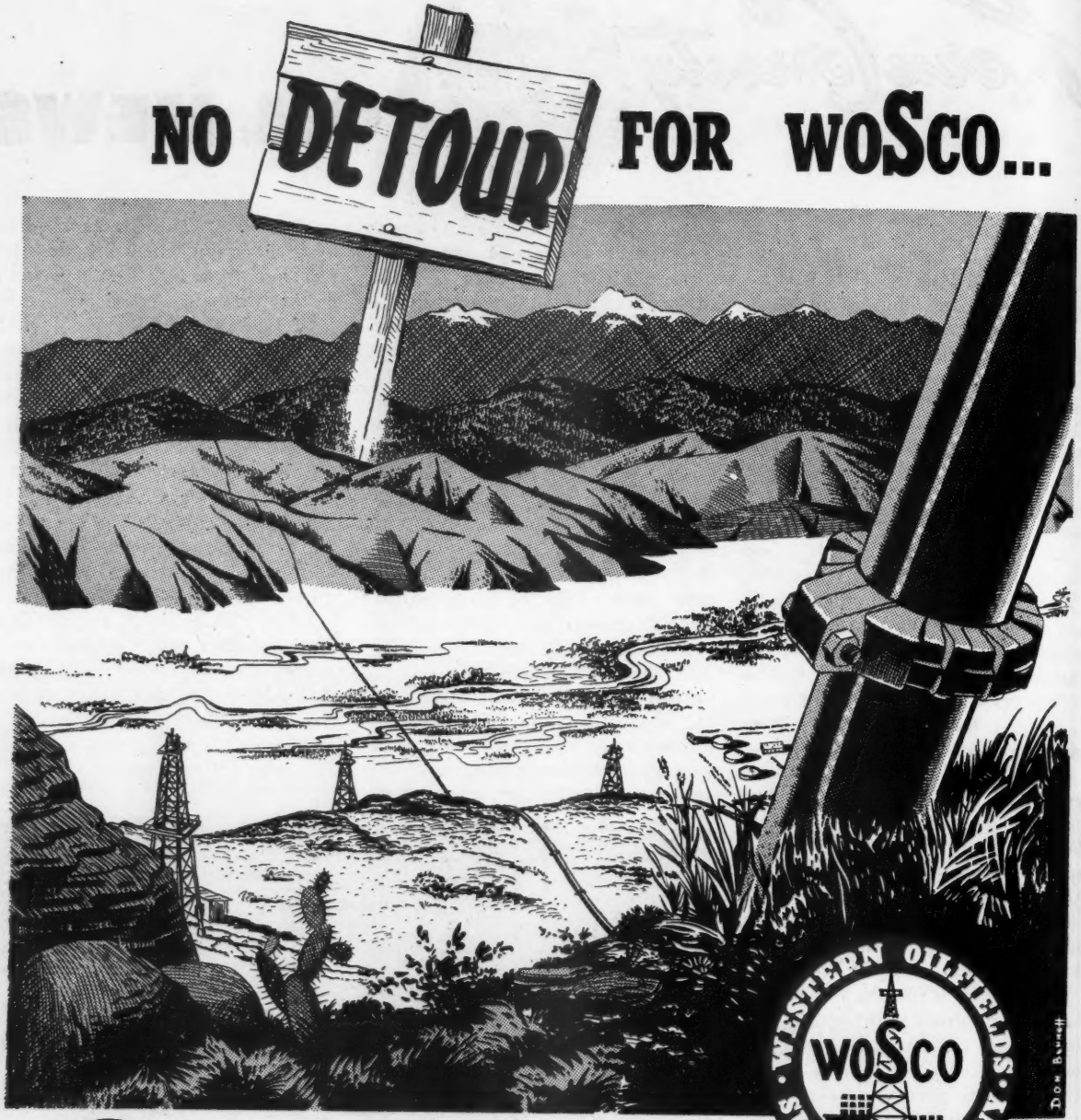
OLD HORIZONS ARE fast appearing, but not on this earth. The old oilwigs are gone. A young man informed us who was way up in geology that Kern's 'deepest oilwell in the world' has been knocked out by a champion which produces less but from a few feet deeper pocket in mother earth.

CAPTAIN HARRY E. McMASTERS gave us a glimpse of himself from behind his bars one day a fortnight ago when he was seen with his big brother "Herb"' of Honolulu Oil at the scouts "longtable" in El Tejon. He looked substantially hale and hearty with a decided adult appearance as compared to the boy he was when he left Kern for England and parts wherever dispersed around the globe.

GEE PEE'S H. D. HOBSON of the local office had "no noos" but we found out in tripping him that: Tony Morris of UCLA is back from the CAF (Canadian Air Force . . . he couldn't wait) where had had a few trips (50 missions) in the S/W

KERN COUNTY'S SOUTH FORK VALLEY above the confluence of the Kern Rivers which flow off Mt. Whitney, initiates the lure to the hunter. This year rain, clouds, many fish and prospective deer make the desert portion along Kern River California Highway 178 near Walker's Pass, look inviting. Here also begins the last wilderness area in the United States. Oilwigs this month have been calling this to the attention of civic, and sportsmen's clubs.

NO DETOUR FOR WOSCO...



Distances are MINIMIZED — "straight-as-the-crow-flies," when WOSCO is called on the job! Over rugged plains, desert-like country, or up and down steep hills and ravines, your water, and gas flows freely, rapidly—at LESS COST too!

Many miles of pipe on hand, available for IMMEDIATE installation by WOSCO technicians who are famed for their "know how" in laying temporary lines!

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Pacific and over England. "HD" told us that the King of England gave Tony a decoration, "a little thing which he brought back from the king". And while he was talking we found out that Bob Hackett was captain in the Marines and that he returned "oil ok". And then Victor King who says he furiously fought off some Elk in a close engagement during one campaign, is in Sacramento. But Ben Van Lupton was looking over a fishing job up near Mt. Whitney in which General Petroleum had no right title or interest. Outside of this no news from the "GP" facility.

JALBERT RAYMOND who described himself as the "office boy" when we called LORING SNEDEN of "TEXACO" sounded more like the vice president in charge of public relations, and probably was when he found out what we wanted. Anyway the courtesy we received reminded us of old times back in the lean 30's when everybody made one feel they liked their job and the pay that went with it.

SANTA BARBARA, THE OILMAN'S HEAVEN, contains more Kernites per square beach heads than any other area touched by oilwigs outside of Kern County. They live there and practicallly commute (three hours). No wonder such courtesy by the office boy, because one cannot live in Santa Barbara without being innoculated with the stuff. At the crossings, the stores, even the cocktail bars there is a welcome committee on hand to save your life, order your size, ask about the folks and invite you back.

GOOD NEIGHBOR POLICY in the SA counties is a matter of grave concern to Kern Oil people who have recently returned with sober faces. All the wartime friendliness is becoming a spirit of nationalism through strange vehicles of information rather than through acts of the Yankee "petrolier", according to more than a half dozen "soberpusses" we met this month.

OWEN JOHNSON of the Valve Shop by the Same Name has reported the arrival of the largest shipment of valves ever purchased

OHIO OIL COMPANY'S PRINCIPAL ADMINISTRATION OFFICE AT BAKERSFIELD. Located on Oak Street just north of the Santa Fe Overpass, this modern office takes on the appearance of good living and contented staff members.

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INDUSTRIAL INSULATION

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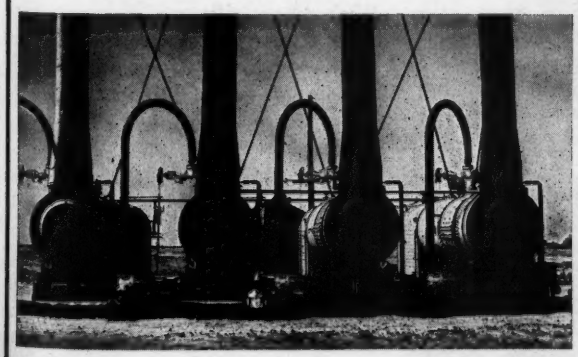

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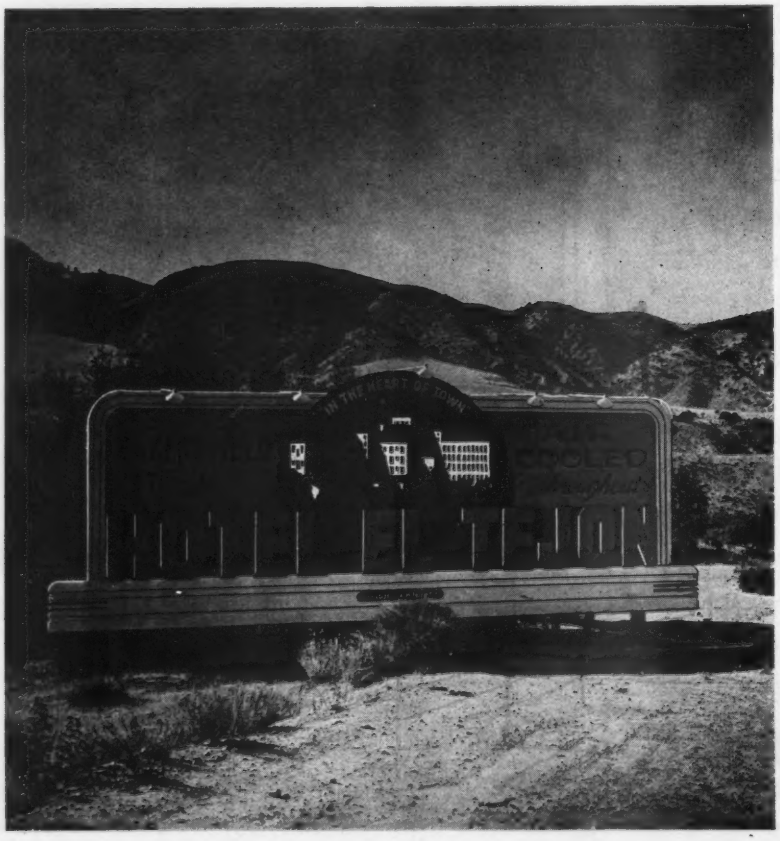

in the San Joaquin Valley. He also said that Art Christensen who broke ground with his firm when it started as Johnson's Valve Shop eight years ago, is now the FIELD REPRESENTATIVE for the firm. More than this he told Carl Bray and Carl told it as manager of the office w/s (without secrecy) that plans have been perfected for approval to build a brand new plant complete to house the shop, office, the supplies and complete valve equipment just as soon as the "essence" prevails. We tender congratulations . . . which include "bests" for the fine trip to June Lake where Owen and Carl reported seeing fish and Bun Wonderly of Wonderly Construction Company the very first day they got there.

REX K. REYNOLDS from Reed Roller Bit is doing his bit in the service department. We are doing our bit in the news section at large, to say a bit about the bit that Rex's bit is about to be bit into by a bit of news.

RICHARDSON NO. 1 in old 8:24:18: WENT INTO SPUD as scheduled on a certain Saturday or two ago as predicted elsewhere. The folks (Gus et Pete) in the "know-how" hope to get even with the Dabney last fall which hit the wrong end of the "sandcline". Coring will be fashionable at 600 instead of 800 feet.

CHARLEY "CD" TANKSLEY, the good natured hardboiled foreman out on the job, is superintending the drilling for Zanetti and Holtz of Pyramid Hills. According to "CD" and his EYE CUE (wink) of confidence he will profit by someone's recent misque.

IT MAY BE GABOTAGE but we hear that Carter is at it again. With more drilling money to rotate he is trying for a new drill. Carter thinks a coward is a pinch quitter, and he has never quit in any pinch. He is on location down Arvin way again. More later.

THE $64 QUESTION this past month has been on page 36 COW July Second Issue. Yes, we answered most of the calls and the letters. The unit you see there is one of five 600 hp Ingersoll Rand compressors on Section 22Q KNDA

(Continued on Page 64)

C.N.G.A. 1946 Fall Meeting Program Announced

"Program arrangements for the 1946 California Natural Gasoline Association Fall Meeting have been completed," was the report given the Association's Executive Committee at its August meeting by Fall Meeting Chairman, Ed. Ragatz of Bechtel Bros. McCone Co. Ragatz, who has had 25 years experience solving the economic and technical problems of the natural gasoline and refining industries, stated that in preparing the program, his committee had determined the topics on which the natural gasoline industry most urgently needed more information, and had then found competent men to discuss them. After hearing his report, the Executive Committee was enthusiastic in its approval of the program submitted.

Opening the morning session, Dr. B. H. Sage, California Institute of Technology, will present data and methods which natural gasoline plant designers and process engineers can use to accurately predict the thermodynamic properties of hydrocarbons. Then C. D. Gard and Hugh Colvin of the Union Oil Company will discuss the economics of L.P.G. operations from the manufacturer's viewpoint. The final paper of the morning session will evaluate the various methods available for processing absorption plant rich oil.

In the afternoon, following President Kibre's address, Frank West of the engineering firm of West and Cole, will discuss the selection of absorption pressures for plants to be installed in high pressure fields. In the second paper, R. C. Alden of the Phillips Petroleum Company will discuss natural gas conversion by the Fischer-Tropsh process. The final paper of the meeting will be presented by Ragatz and will deal with the determination of absorber operating efficiencies.

The evening session will be in charge of C.N.G.A. Entertainment Chairman, Phil. Mettling of Cooper Bessemer Co. Mettling stated that his committee was rapidly completing arrangements for the dinner and show and that both would be of prewar quality.

Commenting on the interest which is already being expressed in the meeting, George Tyler, Association Secretary, stated that a large party of Mid-Continent natural gasoline men are planning to attend.

The meeting will be held on Friday, October 11, 1946, at the Ambassador Hotel, Los Angeles. Additional information can be obtained by writing the California Natural Gasoline Association at 510 West Sixth Street, Los Angeles 14, California.

Statistical Report Expanded

"As convenient to use as a dictionary and just as authoritative," is what users are saying of the new California Natural Gasoline Association statistical report of operations in the California natural gas and natural gasoline industries.

The report, which has been issued since 1928, was recently expanded to include the production and disposition of gas from dry natural gas wells, and to give more complete coverage of the production and distribution of propane and butane. It now makes available to industry substantially the same information that was furnished the Petroleum Administrator during the recent war emergency.

For greater user convenience the report is now issued in three sections. Report Number one—Report of Natural Gasoline and Cycling Plant Operations—shows by fields: Gross Wet Gas Treated; Total Liquid Extract; Natural Gasoline Produced (Gallons and Weighted Average Vapor Pressure); Special Products (iso-butane, etc., to refineries); and Commercial LPG Marketed.

Report Number two — Report of Production and Disposition of Oil Well Gas—shows by fields; Crude Oil Production; Net Formation Gas Production; Gas Used for Repressuring; Plant Fuel and Shrinkage; Other Field and Plant Uses; Unconserved Gas; Transfers; and Deliveries to Gas Companies. It also shows Oil Well gas sales to gas companies by districts, and gas company oil well gas transport deliveries by classes.

Report Number three—Report of Production and Disposition of Dry

Johnston Stainless Welding Rods

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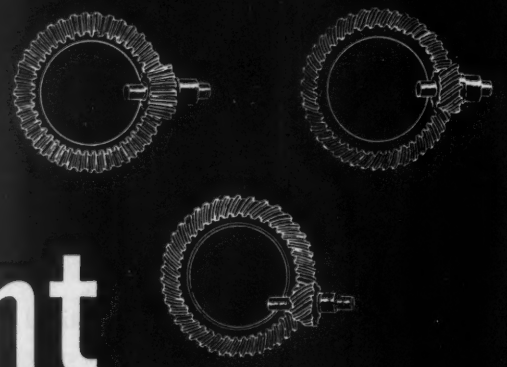

Veedol Multi-Gear Lubricant

A new all-purpose lubricant for transmissions, auxiliary transmissions, spiral bevel rear axles, and hypoid rear axles—for all gear boxes except worm drives. Available in grades 80, 90, 140 and 250.

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Into a base stock of Pennsylvania Gear Oil, Associated Lubrication Engineers have put a special extreme pressure additive. This combination results in a long-lasting gear lubricant that combines qualities needed in a variety of heavy-equipment uses—and allows for one *all-purpose* lubricant item instead of several. You can save money, avoid error, and cut inventories by stocking Veedol Multi-Gear Lubricant. Call your nearest Associated Representative for recommendations on the correct grades for your trucks.

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Gas—shows by fields: Net Formation Gas Produced; Field Fuel and Other Uses; Unconserved; Delivered to Gas Companies.

The reports are copyrighted by the Association, and are furnished free to members; they may be subscribed to by non-members. Additional information concerning them may be obtained from the Secretary at the California Natural Gasoline Association office, 510 West Sixth Street, Los Angeles 14, California.

Two Papers Presented at August 1st C.N.G.A. Meeting

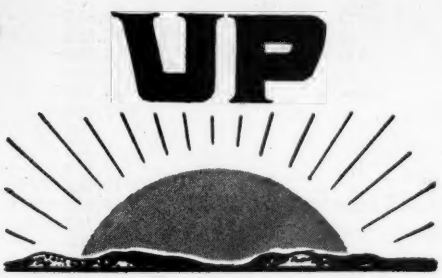
"Keeping up with the times" might well have been adopted as the theme of the August 1, meeting of the California Natural Gasoline Association. Mr. Robert Matteson presented a table of "Physical Constants of Low Boiling Hydrocarbons and Miscellaneous Compounds" prepared by W. S. Hanna and Robert Matteson of the California Research Corporation; and Dr. Clyde Berg, Union Oil Company of California, discussed the Hypersorption process for separation of light gases.

Dr. Berg stated that Hypersorption is a light hydrocarbon recovery process developed primarily for application to those operations in which the use of conventional recovery processes would be uneconomical. It involves contacting the feed gas stream in an absorption zone with a moving bed of activated carbon which has been previously stripped and cooled; separating from the moving bed in a rectification zone those constituents whose recovery is not desired; and finally, in steaming and stripping zones, removing from the moving bed of activated carbon the residual hydrocarbons as a vapor and withdrawing and condensing this vapor. The stripped activated carbon is then gas-lifted to the top of the column and the cycle of operation repeated.

The Hypersorption process, Dr. Berg stated, provides a new tool for the Chemical Engineer in his approach to recovery and separation of extremely volatile or low concentration gases. Applications have ranged from the purification of hydrogen to the recovery of natural gasoline, and the recovery of volatile chemicals and solvents has been considered.

The advantage of the process, according to Dr. Berg, over conventional oil absorption processes is in part due to the ability of activated carbon to retain relatively large quantities of volatile hydrocarbons at low pressure. For example, he stated, at approximately 10 psig, one pound of activated carbon will retain 25.2 times as much methane, 13.2 times as much ethane, and 5.5 times as much propane as one pound of a 200 molecular weight absorption oil well.

A second advantage of the process is due to the selectivity exhibited by activated carbon in its adsorbent action, and the technique which has been developed for controlling this selective action.



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California Oil World's Monthly Summary

DEVELOPMENT—PRODUCTION—SUPPLY & DEMAND
PACIFIC COAST TERRITORY

TABLE I—CALIFORNIA DEVELOPMENT—PRODUCTION

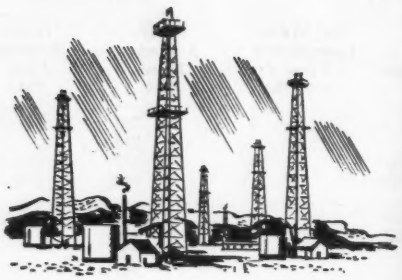
	JUNE, 1946 DEVELOPMENT				PRODUCTION	
	Active Drilling Wells	Oil Wells Completed	Initial Production B/D	Oil Wells Completed First 6 Months	Daily Average June 1946	Daily Average June 1945
SAN JOAQUIN VALLEY						
Ant Hill	1	1	159	8	1,359	531
Antelope Hills	.....	.....	.....	.....	1,595	1,800
Antelope Plains	.....	.....	.....	.....	.....	24
Arvin	.....	.....	.....	.....	23	11
Bellevue	.....	.....	.....	.....	415	587
Belridge—North	.....	.....	.....	.....	5,571	6,367
Belridge—South	8	11	298	59	10,840	13,606
Blackwell's Corner	.....	3	49	3	217	147
Buena Vista Hills	2	1	410	13	39,514	53,292
Burrel	.....	.....	.....	.....	11	41
Canal	.....	.....	.....	.....	2,555	3,564
Canfield-Gosford	.....	.....	.....	.....	86	112
Canfield Ranch	.....	.....	.....	.....	34	40
Coalinga—East	1	1	43	8	17,114	21,663
Coalinga—Nose	1	.....	.....	1	57,243	62,753
Coalinga—West	.....	2	63	2	7,223	8,176
Coles Levee—North	3	.....	.....	4	15,188	15,038
Coles Levee—South	1	.....	.....	1	2,363	2,701
Cymric	9	6	1,019	40	9,044	.....
Edison	3	10	5,071	61	16,620	4,162
Elk Hills	5	2	1,040	11	7,856	62,079
Fruitvale	.....	.....	.....	.....	7,124	8,685
Greeley	1	.....	.....	3	10,578	15,645
Helm	3	3	359	18	4,710	3,382
Jacalitos	1	.....	.....	6	4,651	3,306
Kern Front	3	2	149	16	12,408	12,984
Kern River	2	2	29	9	10,284	10,093
Kettleman North Dome	4	2	1,013	13	37,391	39,073
Lanare	3	1	248	11	2,432	300
Lost Hills	2	.....	.....	8	3,487	3,426
McClung	.....	.....	.....	.....	23	59
McKittrick	.....	3	177	4	4,615	5,109
Midway-Sunset	1	1	45	16	37,588	39,830
Mountain View	3	1	151	5	3,693	2,749
Mount Poso	.....	3	83	13	16,379	18,885
Paloma	5	2	1,744	12	5,123	1,987
Pleasant Valley	1	.....	.....	1	3,295	3,901
Pyramid Hills	1	.....	.....	1	308	384
Race Track	2	.....	.....	5	1,272	514
Raisin City	.....	1	139	5	2,914	3,318
Rio Bravo	.....	.....	.....	.....	13,594	17,165
Riverdale	.....	1	252	6	4,450	4,331
Rosedale Ranch	.....	.....	.....	.....	163	103
Round Mountain	.....	.....	.....	3	9,263	9,961
Salt Creek	.....	1	1,660	3	998	.....
Santiago	2	1	996	15	6,311	.....
Sheep Springs	.....	.....	.....	3	421	524
Strand—East	.....	.....	.....	.....	562	877
Strand—West	.....	.....	.....	.....	1,577	1,563
Tejon	5	1	72	16	1,041	464
Ten Section	.....	.....	.....	.....	9,069	12,541
Union Avenue	.....	.....	.....	.....	510	112
Wasco	.....	.....	.....	.....	691	1,434
Wheeler Ridge	.....	.....	.....	.....	227	233
Miscellaneous	.....	2	59	2	71	14
TOTAL SAN JOAQUIN VALLEY	73	64	15,328	405	412,094	479,645
COASTAL AREA						
Aliso Canyon	2	.....	.....	4	2,776	3,136
Bradley Canyon	.....	.....	.....	.....	.....	98
Capitan	1	1	255	6	3,619	2,375
Del Valle	.....	.....	.....	1	1,556	2,020
Elwood	2	1	144	4	6,713	6,018
Gato Ridge	2	.....	.....	1	4,293	4,813
Hasley Canyon	.....	.....	.....	.....	.....	.....
Newhall-Potrero	2	2	916	5	5,974	5,514
Oak Canyon	.....	.....	.....	1	1,671	2,301
Oxnard	.....	.....	.....	.....	1,076	1,278
Padre Canyon	1	.....	.....	2	2,371	2,059
Ramona	3	2	260	11	942	227
Rincon	1	.....	.....	.....	4,404	4,637
San Martinez	1	.....	.....	.....	3,522	3,227

MONTHLY SUMMARY—Continued	JUNE, 1946 DEVELOPMENT				PRODUCTION	
	Active Drilling Wells	Oil Wells Completed	Initial Production B/D	Oil Wells Completed First 6 Months	Daily Average June 1946	Daily Average June 1945
San Miguelito	2	.....	.....	3	4,730	5,393
Santa Barbara	.....	.....	.....	.....	139	123
Santa Maria	4	1	220	10	13,482	14,834
Santa Maria Valley	3	3	489	24	33,188	38,216
Summerland	.....	.....	.....	.....	.....	.....
Ventura Avenue	8	5	4,129	22	47,098	48,990
Ventura-Newhall	2	2	97	9	6,944	5,735
Watsonville	.....	.....	.....	.....	25	25
Zaca Creek	.....	.....	.....	.....	247	.....
Miscellaneous	.....	.....	.....	.....	.....	.....
TOTAL COASTAL DISTRICT	34	17	6,510	103	144,770	151,019
LOS ANGELES BASIN						
Brea-Olinda	.....	.....	.....	2	10,752	11,769
Buena Park	1	2	138	2	70	109
Coyote—East	.....	1	91	4	4,877	4,997
Coyote—West	1	2	337	6	15,434	14,482
Dominguez	3	.....	.....	4	16,070	18,693
East Los Angeles	3	.....	.....	2	408	.....
El Segundo	.....	.....	.....	.....	571	808
Huntington Beach	4	5	1,166	26	47,684	49,493
Inglewood	.....	.....	.....	.....	12,837	15,653
La Mirada	.....	.....	.....	1	.....	.....
Lawndale	.....	.....	.....	.....	0	24
Leffingwell	.....	.....	.....	1	6	.....
Long Beach	.....	.....	.....	1	25,004	27,407
Los Angeles-Salt Lake	.....	.....	.....	.....	385	537
Montebello	1	.....	.....	2	8,537	9,833
Newport-Costa Mesa	3	3	420	29	4,228	330
Playa Del Rey	.....	.....	.....	.....	2,383	2,533
Potrero	.....	.....	.....	1	1,088	1,295
Richfield	1	.....	.....	5	7,514	7,839
Rosecrans	1	.....	.....	2	5,064	5,851
Sansinena	.....	.....	.....	.....	72	102
Santa Fe Springs	.....	.....	.....	.....	17,100	17,600
Seal Beach	4	3	1,148	11	9,828	9,834
Torrance	2	2	127	10	8,687	8,978
Turnbull Canyon	.....	.....	.....	.....	151	172
Whittier	.....	.....	.....	.....	1,043	1,004
Wilmington	22	16	23,133	87	112,377	101,005
Yorba Linda	.....	.....	.....	.....	.....	585
Miscellaneous	.....	.....	.....	.....	.....	.....
TOTAL LOS ANGELES BASIN	46	34	6,560	196	312,251	310,933
EXPLORATORY						
Outpost Wells	27	.....	.....	.....	.....	.....
Wildcats	19	.....	.....	.....	.....	.....
Gas Wells	3	7	Gas	34	.....	.....
TOTAL CALIFORNIA	202	115	48,398	903*	869,115	941,597

*—Includes gas wells completed and 165 drilling wells abandoned.

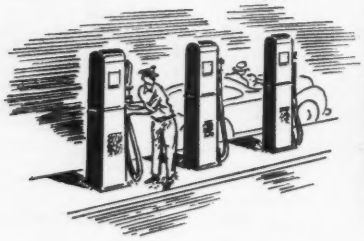
TABLE II—SUPPLY AND DEMAND FOR PETROLEUM PRODUCTS
PACIFIC COAST TERRITORY
DATA FOR JUNE OF EACH YEAR

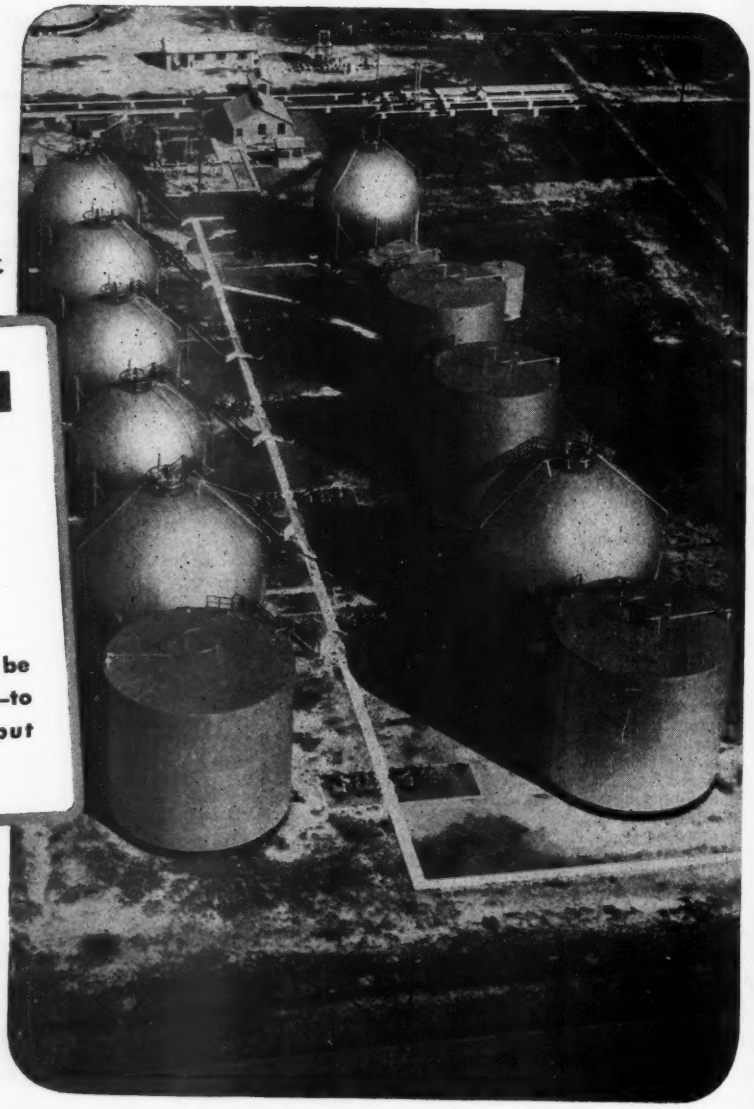
	June 1941	June 1942	June 1943	June 1944	June 1945	June 1946
RAW MATERIAL—B/D						
1. Crude Oil Produced—California	638,939	650,837	775,974	847,377	941,597	869,115
2. Crude Oil from outside 5 Western States	1,961	2,696	4,893	4,223	33,703	3,318
3. Natural Gasoline Produced	38,000	34,000	39,000	42,000	45,000	44,000
SUPPLY OF FINISHED PRODUCTS						
ALL SOURCES—B/D						
4. Natural Gas., L.P.G. and Condensate	8,067	10,367	11,400	13,033	14,500	15,400
5. Gasoline and Naphtha Distillates	251,067	226,567	255,300	324,433	373,633	309,533
6. Kerosene and Kerosene Distillates	10,266	7,700	10,433	11,100	7,200	9,200
7. Lubricating Oils, etc.	13,067	13,800	13,900	14,267	15,100	12,567
8. Gas Oil and Diesel Oil	84,566	70,700	81,400	97,600	91,267	101,733
9. Fuel Oil Residuum	279,133	335,366	391,100	432,233	507,867	401,467
10. Asphalt and Road Oils	30,267	41,933	30,400	30,033	31,000	28,200
11. Coke and Other Finished Products	3,300	1,900	1,133	1,866	9,832	4,567
12. Other Unfinished Oils	2,533	467	(2,833)	(6,933)	(300)	(500)
13. Refinery Shortage and Gas	26,333	24,568	37,799	41,467	49,635	36,367
14. Crude Oil (Net)	(15,700)	(34,333)	5,301	(22,467)	(33,734)	25,166
15. TOTAL SUPPLY	687,833	699,035	835,333	936,632	1,066,000	943,700
16. TOTAL DEMAND	741,000	844,000	972,965	968,734	1,085,169	870,767
17. DIFFERENCE	(53,167)	(144,965)	(137,632)	(32,102)	(19,167)	72,933
18. Stocks on hand End of each month (Total Bbls.)	144,744,000	132,907,000	126,111,000	88,107,000	74,172,000	80,511,000



. . . from field to filling station

. . . volatile products must be protected from evaporation—to assure maximum *throughput* and maximum profits.





THE photo above at the right shows some of the storage facilities at a cycling plant in the West where 16,000 bbls. of butane, 250° end-point gasoline and heavy distillate are recovered daily. In this view there are five 5,000-bbl. Hortonspheres—two designed for 80 lbs. per sq. in. pressure and three for 25 lbs. pressure—and two 10,000 bbl. Hortonspheres—one designed for 25 lbs. pressure and the other for 80 lbs. The flat-bottom tanks shown include a 1,000-bbl., two 7,500-bbl. and two 10,000-bbl. units.

Hortonspheres are the logical choice for storing petroleum products that are highly volatile. They are designed to operate at higher pressure than the vapor pressure (during normal temperature range) of the products being stored. Instead of a portion of the air-vapor mixture being expelled from the tank when temperatures rise—pressure builds up inside. Hence, during normal operations, no vapor loss occurs.

All of the tanks shown in the accompanying view were designed, fabricated and erected by us. We also build Hortonspheroids in capacities up to 120,000 bbls. for products ranging in volatility from motor gasoline to natural gasoline and Hemispheroids from 2,500 to 30,000 bbls. capacity for volatile products that require an operating pressure of 2½ lbs. per sq. in.

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New York 6.....165 Broadway Building
Cleveland 15.....Guildhall Building
Atlanta 3.....Healey Building
Chicago 4.....McCormick Building
San Francisco 11.....1211-22 Battery St. Building
Philadelphia 3.....1700 Walnut St. Building
Los Angeles 14.....Wm. Fox Building
Washington 4.....703 Atlantic Building
Detroit 26.....Lafayette Building

Field Development

PREPARED FROM CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

Brea Try Rigs Pump

El Rancho Exploration Co. is rigging pump to El Rancho No. 1 in Sec. 30-2s-9w in the Brea area, with bottom plugged at 1680 ft.

Inglewood Try Cores

On the northwest side of Inglewood, Basin Oil Co. is coring at 7848 ft. with Standard Brick No. 1 in Sec. 28-2s-14w. T. P. Pike Drilling Co. is contractor.

Gardena Project Running Tester

West of the town of Gardena, British-American Oil Prod. Co. and The Texas Co. are ready to run formation tester in Bodger No. 1 in Sec. 22-3s-14w, with hole bottomed at 9154 ft. Severns Drilling Co. is in charge of operations.

Berdoo Tries Hold Interest

In the Chino Hills of San Bernardino County, C. W. Ginter & Assoc., Kraemer-Backs No. 3 in Sec. 33-2s-8w is drilling at 3025 ft. Grayco Oil Co. is fishing drill pipe in its Mahla No. 1 in Sec. 13-3s-8w. Total depth is 1550 ft.

Antelope Test Getting Ready

Water well is nearing completion for Amapola Corp., No. 1 wildcat test scheduled for Sec. 6-6n-12w in the Antelope Valley area of Los Angeles County. Burton & Burton has the contract.

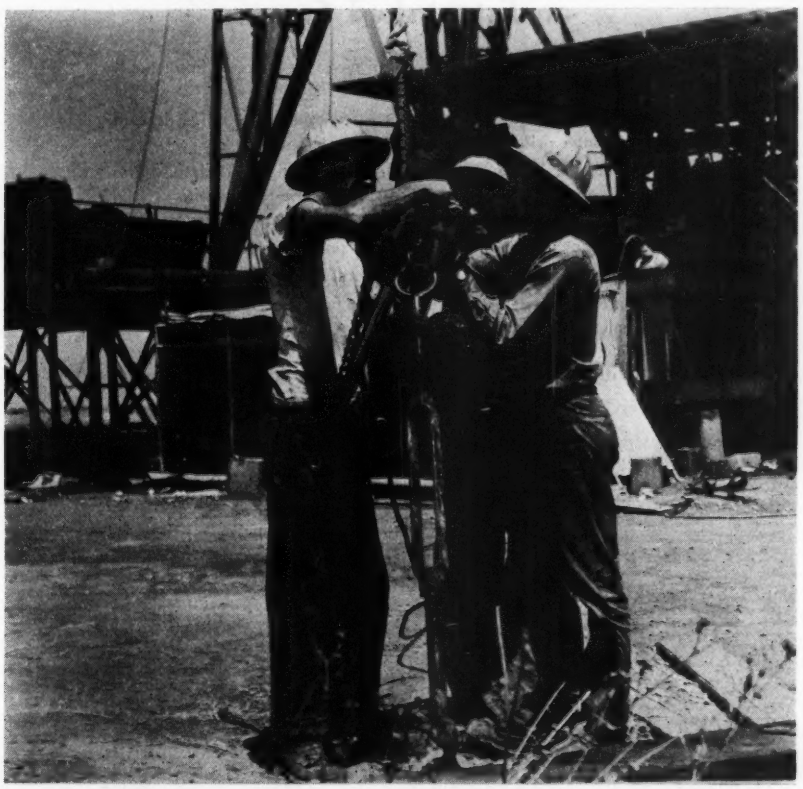
West Newport Still Active

California Exploration Co. has spudded its McKee No. 1, an offset to Macoil production in the West Newport Beach area. Signal Petroleum Co. of Calif. is preparing to pump McCain No. 2 from 2102 ft. Casing is cemented at 2063, with tubing hung at 2084 ft.

Warren L. Meeker and Russell D. Garner, Deeble No. 1 in Sec. 13-6s-11w is making hole ahead at 3200 ft. The A zone looked wet. Standard has started the drill in its McLeod No. 1 in Sec. 18-6s-10w, with depth last reported around 400 ft. Tide Water Associated has finished a water well for its Aldrich Fee No. 1 in Sec. 13.

El Segundo Well Starts Head Flow

Shell Oil Co., Inc., Six Companies Fee No. 1 in Sec. 2-3s-15w in the El Segundo area, which was



Crewmen C. W. Fields, L. J. Richardson, and Preston Russell, (left to right) taking up the slack in the deadlines just before Union Oil Co.'s Callendar 100 at Dominguez, started on tour.

IT'S THE FOOTAGE OF HOLE IN THE OIL SAND THAT COUNTS

Drillers said:

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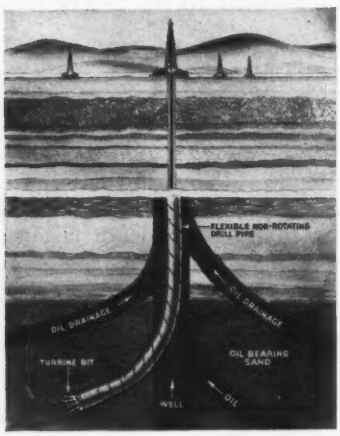
until Zublin did it!



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The drill pipe doesn't rotate, but the bit drills outwardly and horizontally at any depth, right through the producing oil sands.

You get the production that the vertical hole can't obtain.

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completed some weeks ago pumping about 100 barrels daily, has developed in an interesting fashion, brought about by continued work.

Taken off the pump and perforated higher around 6770 ft. and between 6770 and 6842 ft., a heading flow started while holes were being shot. Production rate of 360 barrels a day is considerably higher than output from the interval first tapped at 6875-6936 ft.

The well was carried to a total depth of 7033 ft. in basement. It was later plugged back to 6940 ft. to shut out bottom water.

Leffingwell Try Fishing Job Fails

Failing to recover fish, coupled with lack of encouragement to bottom at 5788 ft., Rothschild Oil Co. has abandoned its E.S.F.S. Comm. No. 1 in Sec. 10-3s-11w in the Leffingwell area.

East Los Angeles Holds Spotlight

C. C. M. O. Co. is ready to run liner and test showings above 9950 ft. encountered in its Bandini No. 1 in Sec. 21-2s-10w in the East Los Angeles area. Total depth is 12,930, with casing set at 9938 ft. C. G. Willis' Simons No. 1 in Sec. 15-2s-12w is testing between 9788 and 9800 ft. Shell Oil Co.'s Pansini No. 1 in Sec. 23 is idle at 9310 ft.

Richfield Oil Corp. is rigging up Boyle Comm. No. 33-1 in Sec. 31-1s-12w, and Flood Control No. 1 in Sec. 14-2s-12w. U. P. Unit No. 2 is drilling at 6900 ft. Edison No. 1 has been redrilled to 7945 ft. and on a water shut off retest recovered salt water and oil, with a resqueeze job in prospect. Keller No. 1 is still idle at 9358 ft. Vail No. 2 has been swabbed in from the perforated interval of 8616-8634 ft. flowing to sump an estimated 300 barrels a day.

Mission Wildcat Coring Silty Sand

Coring hard silty sand at 668 ft., with no cut, was the last report from Seaboard Oil Co.'s Mission Land No. 8-1 in Sec. 25-3n-16w in the Newhall area. The try is a short distance from the historic San Fernando Mission.

San Joaquin Valley

Miramonte Try Coring Deeper

Approximately seven miles northwest of the Semitropic gas field, Pacific Western Oil Corp. is coring ahead at 13,025 ft. with National Royalties No. 1 wildcat test in Sec. 5-26s-22e in the Miramonte area, Kern County.

McKittrick Test Listed

An important exploratory venture is planned by The Texas Co. in the McKittrick area. Known as West Pet. No. 1, location is being graded in Sec. 29-30s-22e. It probably will take a look at all formations down to the Eocene expected near 8000 ft.

In the Sheep Springs area, company's Anderson No. 1 in Sec. 20-29s-21e is drilling at 1000 ft. Theta No. 2-1 in Sec. 2-28s-19e on the McDonald anticline, meantime, remains idle at plugged depth of 811 ft.

Oceanic Plans Grapevine Try

Oceanic Oil Co. has location staked for its K. C. L. No. 1 in Sec. 22-10n-20w not far from the postoffice in the Grapevine area in Kern County. Reserve Oil & Gas Corp.'s No. 1-A-21 test in Sec. 21-11n-19w has been spudded and is drilling ahead below 650 ft. M. J. Stansbury & Assoc., Tejon No. 1 in Sec. 30-11n-19w has been redrilled to 2920 ft., after going originally to 3006 ft. Formation test of the interval of 2850-2900 ft. failed.

Western Gulf Plans Arvin Try

Western Gulf Oil Co. is making ready to start work on Di Giorgio No. 1, an exploratory venture in Sec. 10-31s-29e in the Arvin area. In the San Emigdio, No. 3 in Sec. 31-1n-22w is about to spud.

Turk Anticline Try Spot Cores

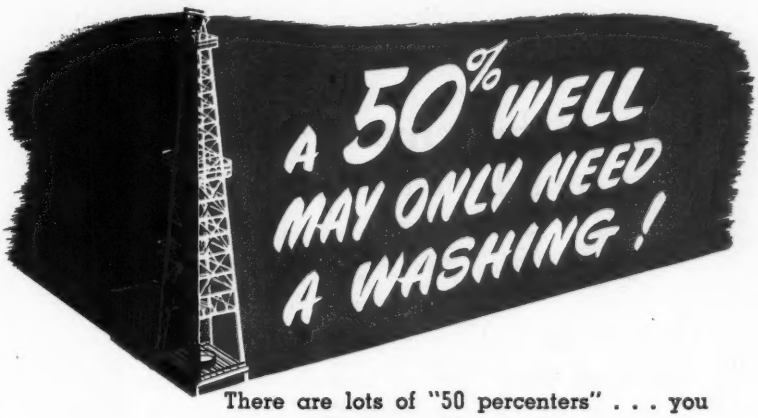
On the Turk anticline in the Cantua Creek area of Fresno County, Bankline Oil Co. is drilling ahead and spot coring at 6000 ft. wtih Kenyon No. 1 in Sec. 4-17s-15e.

Buena Vista Try Drilling

Seaboard Oil Co., SWUM-BVA No. 73-14 near Buena Vista Lake, which backed up for a fresh start, now is making new hole at 11,498 ft .Continental Oil Co.'s BVA No. 1 in Sec. 8-23s-25e is drilling at 8100 ft.

Belridge Deep Try Drills On

Belridge Oil Co.'s No. 62-W-33, designed as nothing less than a conclusive deep test of the South Belridge area, is coring ahead at 12,250 ft. Richfield's scheduled try, Berry No. 1 in Sec. 30-28s-21e, is so far but a rig.



There are lots of "50 percenters" . . . you know them. Fair wells, paying their way — but not as good as they should be. Their tests gave promise of much greater production; nearby wells are bringing in twice as much from the same formations. And, surprisingly enough, there's only one thing the matter with most of them.

They need washing! Yes, even if they were washed when they were brought in. The experience of McGaffey-Taylor, gained in washing hundreds of wells in nearly every field in California, provides a simple, tested prescription: wash those disappointing wells with an M-T Pressure Washer. The results? Increased production in most wells, greatly increased production in many, phenomenal increases in some. Get the full details —

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Round Mountain Try Pumping Water

The Petrol Corp.'s Claire No. 1 in Sec. 13-28s-28e on wildcat ground about a mile from the Round Mountain field last was reported pumping water with a scum of oil from 2375 ft. Casing is set 2355 ft. Rothschild Oil Co. is getting ready to try its luck in the area. Oil will be sought through the medium of Alma No. 1 in Sec. 15.

Middle Dome Try Yet Fishes

In the Middle Dome wildcat area of Kettleman Hills, Standard Oil Co.'s No. 73-30V continues to fish for drill pipe. The well is bottomed at 10,921 ft., with top of fish at 9220 ft. Some progress has been made in recent days.

Arvin Job Fishing

Gene Reid Exploration Co. is fishing for drill pipe in Angus No. 1 in Sec. 19-31s-30e in the Arvin area. The top of fish is placed at 2750 ft. Total depth is 4482 ft.

Murray No. 1 in Sec. 21-22s-27e in the Terra Bella area of Tulare County, which is bottomed in granite at 1433 ft., is now testing oil sand logged at 840-854 ft.

Jacalitos Test Drilling Ahead

Kreyenhagen No. 23-8 in Sec. 8-22s-16e in the Jacalitos area, sponsored by Shell Oil Co., Inc., is drilling steadily ahead at 3450 ft. The company is rigging derrick to begin operations in its K.C.L.-A No. 53-30 in Sec. 30-30s-26e in the Ten Section field, a Shell discovery.

Pyramid Hills Explorer Spuds

Guy Richardson has started drilling Holtz and Zanetti No. 1 in Sec. 8-24s-18e in the Pyramid Hills, Kings County. In Sec. 17, Ridge Petroleum Corp. is ready to run casing to set at a point above bottom at 711 ft. in oil sand.

Corcoran Test Runs Electrolog

With bottom at 7900 ft. Four Star Oil Co. is running electric log in C. I. D. No. 1, a prospect job in Sec. 24-20s-22e in the Corcoran area of Kings County.

McKittrick Job Making Ready

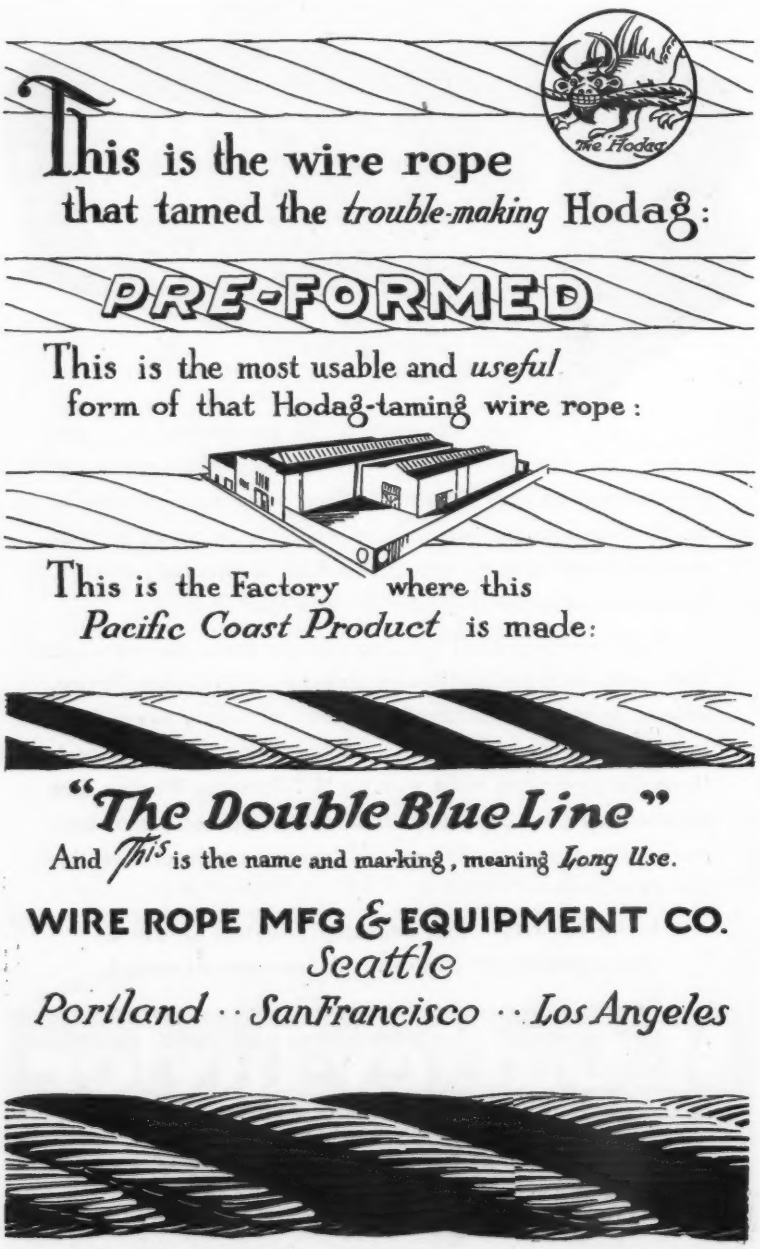
E. A. Parkford, widely known Beverly Hills oil man, is preparing to launch an 8000-ft. test in the McKittrick field in Sec. 22-30s-22e. Ralph M. Parsons Co. has contracted the drilling.

Buttonwillow Deepening Job

Roy H. Johnston, Hollywood, is planning to deepen the Trans-Cal Oil Co. project in Sec. 30-28s-23e in the Buttonwillow area from present depth near 5000 ft. to around 7000 ft.

Kings County Try Resuming

Operations are expected to be resumed shortly in Kings County Oil Co.'s Von Glahn No. 1 in Sec. 4-23s-22e in the Tulare Lake area.


This is the wire rope
that tamed the trouble-making Hodag:
PRE-FORMED
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form of that Hodag-taming wire rope:
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"The Double Blue Line"
And This is the name and marking, meaning Long Use.
WIRE ROPE MFG & EQUIPMENT CO.
Seattle
Portland · · SanFrancisco · · Los Angeles

Coastal and Northern District

Cache Slough Try Drills On

Amerada Petroleum Corp., one of the state's foremost developers of natural gas, is drilling ahead at 4250 ft., with Church No. 3 in Sec. 1-4n-2E in the Cache Slough area, Solano County. Nicolaus No. 1 in Sec. 26-5n-5e in the Thornton area, Sacramento County, is a location. Thornton Unit No. 2 in Sec. 28-5n-5e in the Thornton area, San Joaquin County, is drilling below 700 ft.

Conejo Job Spudded In

In the Conejo district of Ventura County, D. A. Barth has spudded No. 3 in Sec. 32-2n-20w and is down 100 ft. The try will rerig with rotary outfit.

Sutter County Gas Try Begins

Buttes Oilfields, Inc., Buttes-Ward No. 2 gas try in the Marysville-Buttes area, Sutter County, is drilling on down at 1350 ft.

Humboldt County Tests Progress

In the Eureka area of Humboldt County, The Texas Co. is making hole ahead at 6400 ft. with Holmes-Eureka No. 3 in Sec. 22-3n-1w. Near Petrolia, W.C.M.C. Oil Co., Inc., Mathew-Clark No. 1 in Sec. 21-1s-2w is in surface formations.

Tip Top Try Spot Coring

Between Ojai and the Ventura Avenue field, L. M. Lockhart is spot coring at 4872 ft. in Macrate No. 1 in the Tip Top area in Sec. 27-4n-23w, Ventura County. The lease embraces 1300 acres.

Goleta Test Sets Casing

With 7-inch casing cemented at 3044 ft., Ohio Oil Co.'s Prevedello No. 1 in Sec. 1-4n-28w near Goleta is standing, with bottom at 5266 ft.

Los Alamos Well Digging Hard Shale

Whittier Associates' Barham No. 3 in Sec. 11-7n-32w in the Los Alamos area, which has found a number of interesting showings to present depth, is drilling ahead below 6350 ft. in hard shale.

New West Mt. Job Scheduled

Los Nietos Co. is grading location for its C. & H. No. 2 in Sec. 23-3n-21w in the West Mountain area, Ventura County. Elkins No. 1 in Sec. 6-3n-19w in the Fillmore area, which the company redrilled to 4930 ft., has been placed on the pump for a yield of 52 barrels of 29.8 gravity oil a day, cutting 1.4 per cent. The Elkins project was originally a Standard enterprise. It went to a total depth of 13,321 ft. and found nothing of commercial interest in the deep formations.

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Monterey County Prospectors Drill

Near San Ardo, Monterey County, C. C. M. O. is drilling in shale at 5189 ft. with San Ardo No. 6-G1. Fowler Drilling Co. is the contractor. After running electric log at 4007 ft., Texas Co. is repairing at 170 ft. the 7-inch casing set at 3277 ft. in Aurignac No. 1 in Sec. 4-23s-10e.

Casitas Test Still Drills

Continental Oil Co.'s No. 2 wildcat on the Rancho Casitas in the Red Mountain area continues to drill on down at a depth of 11,950 ft., without official intimation of developments of interest to date.

Triunfo Try Rigs To Deepen

Bennett Exploration Co. has decided to deepen its Triunfo No. 2 in Sec. 24-1n-19w in the Triunfo area from present depth of 2050 ft. Drilling is in charge of Casner and Bentz.

South Mountain Well On Pump

About 1½ miles west of the South Mountain field, D. D. Feldman's Richardson Estate No. 1 in Sec. 23-3n-21w has been placed on the pump for an initial yield of water with a scum of oil and some gas. Bottom is plugged back to 4052 ft. from 4676 ft.

Oxnard Test Oil Failure

In the Oxnard-Camarillo area, Rothschild Oil Co.'s Dempsey No. 1 in Sec. 29-2n-21w went to a total depth of 3553 ft. in gray silty shale in a vain effort for new oil.

Sisquoc Well Plans Trials

Union Oil Co. has cemented casing at a depth of 4037 ft. in its No. 6 well in the Sisquoc area, Santa Barbara County, and is about ready to ascertain the paying-off tendencies of the project. Total depth is 4989 ft.

Gaviota Wildcat Fishes Core Barrel

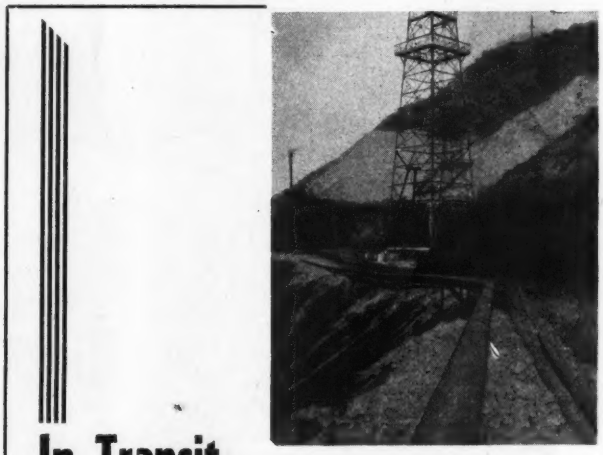
Fishing for core barrel is the chief interest at present of the Barnsdall-Honolulu Oil Co.'s Petan No. 1 in the vicinity of Gaviota in Sec. 5-5n-32w, Santa Barbara County. Bottom is 4693 ft.

Camarillo Try Grading Roads

Broome No. 1, a Texas Co. prospect job in Sec. 29-1n-20w near Camarillo, is grading roads. Modern Drilling Co. is the contractor.

Kirby Hills Well Drills

Standard Oil Co. has reached a depth of 5700 ft. with its Kirby Comm. No. 2 gas explorer in Sec. 36-4n-1w in the Kirby Hills of Solano County and is continuing to make normal progress with the drill. Shell has locations staked for two new jobs in the area. It was Shell wildcatting two years ago that first uncovered the gas producing capacity of the Kirby Hills.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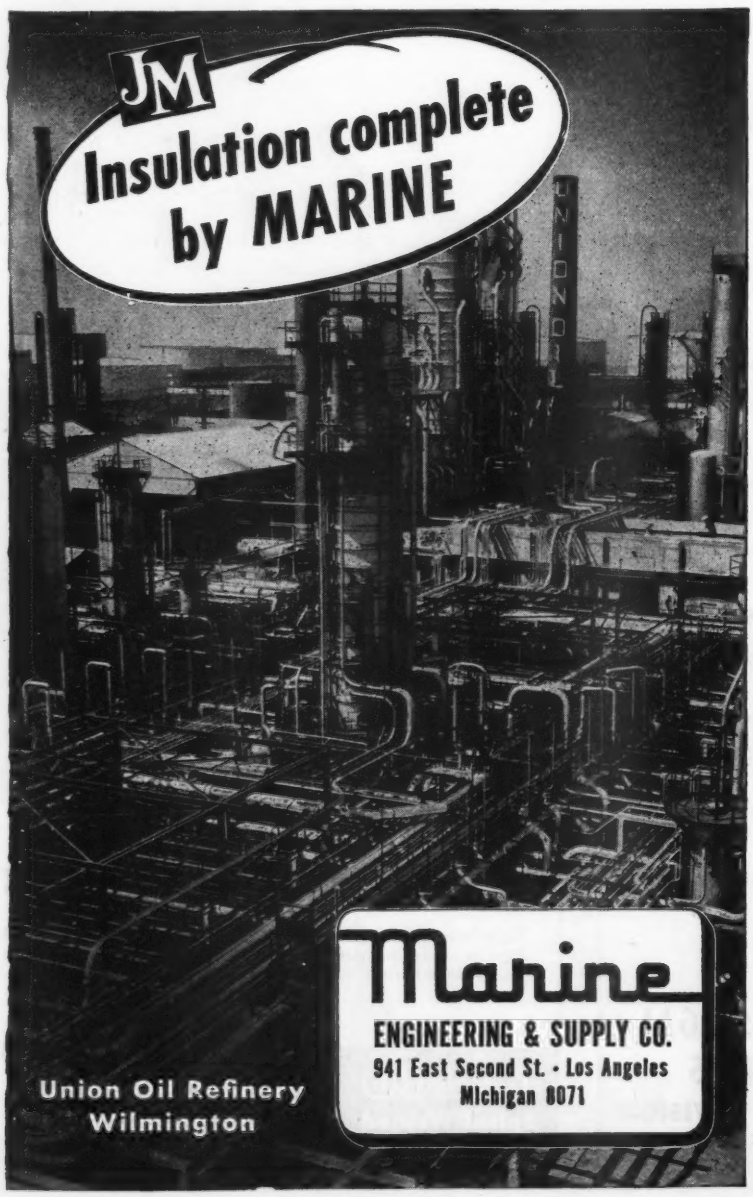
Exeter Oil Plans Santa Maria Well

Exeter Oil Co., Ltd., is grading location for its Gilliland No. 1 in Sec. 29-10n-34w in the Santa Maria Valley field. The drill site is on Lot 58 of the Paderewski subdivision.

The property was once owned by the immortal concert pianist Ignace Paderewski. These holdings and others throughout the world passed out of his hands years ago when he put them up for sale to raise cash to alleviate suffering in his native Poland after World War I.

Del Valle Try Drilling Ahead

Black No. 5 in Sec. 13-4n-18w, sponsored by the Superior Oil and British-American Oil Prod. combination, is drilling ahead at 2300 ft. The Texas Co. is grading for Black No. 1 in Sec. 12 and has cellars dug for Kern No. 44-NE-13, and Kern No. A-13-18. Kern No. 13-NE-18 swabbed 119 barrels of oil in 11 hours from 4070 ft. Total depth is 4070 ft. Casing is set at 3949 ft.



Oil Well Opens San Francisco Office

Establishment of a branch division sales office in San Francisco by Oil Well Supply Company, subsidiary of U. S. Steel Corporation, was announced on Aug. 8th by Warner F. Parker, California Division Manager of the company.

The new office, located at 544-A Russ Building, will service the increasing activity in foreign oil development by California producers, and in addition, will handle the domestic needs of the oil industry in the Northern California and San Francisco Bay areas, according to Mr. Parker.

"Oilwell's" California division headquarters are located in Los Angeles with supply stores located in Los Angeles, Long Beach, Ventura, Avenal, Bakersfield and Taft.

In charge of the new branch division office in San Francisco is Randall D. Stone, formerly manager of the San Joaquin Valley district headquarters at Bakersfield. He has been with "Oilwell" 15 years in California.

The San Francisco office also will be the present headquarters of H. L. Freeman, export representative of the company.

Oil Well Supply Company, oldest oil field equipment producer in the nation, has its national headquarters in Dallas, Texas. Last year, it purchased the assets of the Neilsen Pump Company of California, with its main manufacturing plant at Long Beach and with warehouse and service branches at Taft, Bakersfield, Huntington Beach and Ventura.

"Oilwell" has other manufacturing plants at Oil City, Pa., Braddock, Pa., and Kansas City, Mo. In its manufacturing plants is produced every type of equipment needed by the petroleum industry, and its products have been used in every oil field throughout the world.

Devils Den Try Starts

S. R. DeKalb's Blake No. 14 in Sec. 25-25s-18e in the Devils Den area has taken its first bite of ground and is drilling ahead at 460 ft. Barnsdall Oil Co.'s Bates No. 3 in Sec. 20-25s-19e is idle at 2341 ft.

TIME TO CHECK YOUR **DEHYDRATION**

	Yes	No	Don't Know
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NOBS DEHYDRATING CORPORATION
2465 East 53rd St., Los Angeles 11, Calif.

Washington Highlights

(Continued from Page 1)

next April. A series of meetings are being held by the Reconstruction Finance Corp., the Interior Department and the Office of Price Administration.

Rumors current in Washington for weeks that National Democratic Chairman Robert E. Hannegan had asked the President to accept his resignation from the chairmanship found official denial in Mr. Hannegan himself. It is generally known, however, that Labor Secretary Schwellenback is anxious to resign because of delicate health.

According to the view of OPA, the national crude oil industry advisory committee and other OPA advisory committees of the oil industry continue in existence under the new law, precisely as they formerly were constituted. Industry committees named by OPA to several years include the refiners advisory industry committee and the lubricants advisory industry committee. They are in addition to the crude oil group.

Bill Wardner, manager of the Conservation Committee, spent this summer's vacation in the beautiful Stanislaus River country, about 50 miles south of Yosemite. It was a vacation, however, that Bill is not likely to soon forget, due to a battle with Rocky Mountain fever, picked up during his stay in the wilds. He was under the care of the family physician for some time after his arrival home.

Both big and little business must tell their story in terms that the man in the street can readily understand, Sherman McFedries, Union Oil Co. public relations representative, told members of the Wilshire Chamber of Commerce in an address on "Public Relations as Applied to Advertising."

He called upon American business to assume full responsibility in making certain that the public is intelligently informed as to what industry is doing and how it is being accomplished. Only by this method can the rising clamor of disaffected groups be stilled. These alienated groups, he pointed out, are increasing their campaigns to undermine the country's present system of Government in order that some foreign "ism" may be substituted.

Wilson Bros.
PAINT ENGINEERS
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WHITTIER 43-275

FOR SALE

Turret Lathe, W & S 3A, 5" Spindle. New Gears, New Collet Closer, New Axelson Cross Slide. 15-hp U. S. Motor. Lots of Tooling. Ivan L. de Jongh, 2027 Santa Fe Ave., Los Angeles, 21. Phone: VAndike 7435.

FOR SALE—TANK FARM

2 acre tank farm, 4 miles from Long Beach, with 9 tanks; total capacity 14,750 bbls.; has 2 truck loading racks and loading rack on Southern Pacific spur. Price $13,000. Dutch Bandringa, Broker, 741 Compton Blvd., Clearwater, telephone MEtcalf 3-2910.

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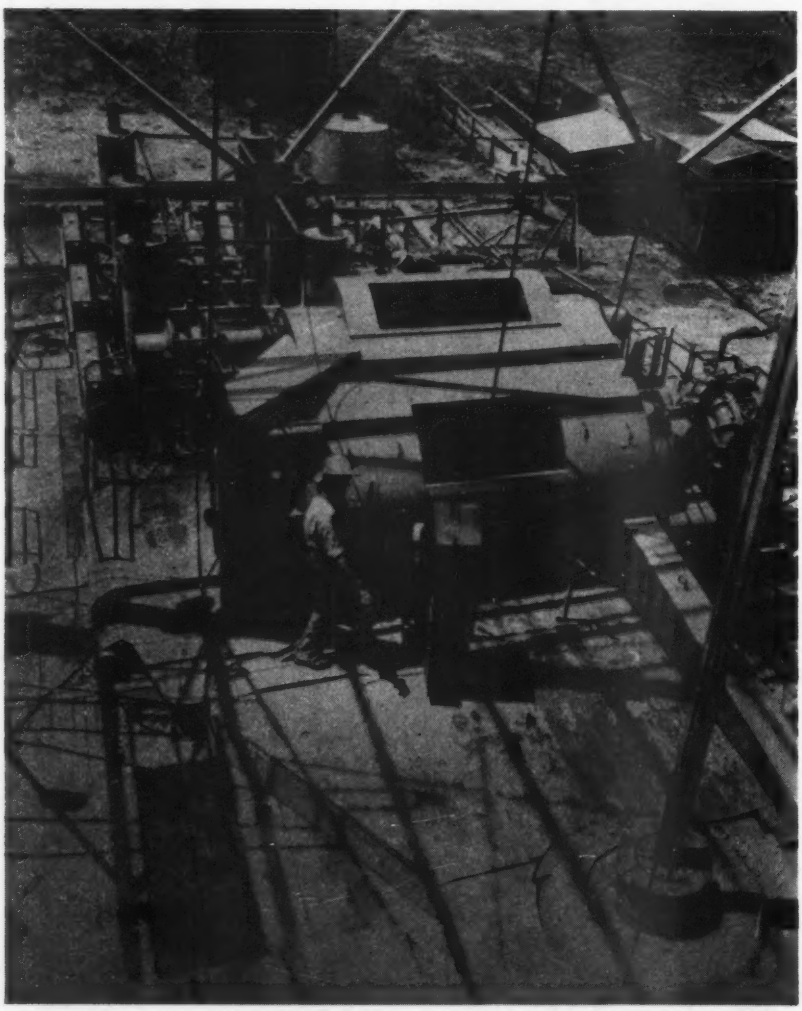
6500 ft. 5 9/16 Machine scarfed drill pipe. 3600 ft. 5 9/16 Drill pipe (uncut). Herley-Kelley, 3201 Pasadena Ave., Long Beach 7, Calif. Phone 425-23.

Centralized Drilling Control on New "Oilwell" Rig

Muscularly speaking, it is as easy to drill for oil thousands of feet below the earth's surface with the new heavy-duty rig of Oil Well Supply Company as to operate the average automobile.

Before the operator of the new rig stands a compact centralized control panel, resembling that of a giant army bomber. A flick of his wrist or a touch of his fingers to the knobs and levers control pneumatically the operations of the entire rig.

Small hand levers actuate air valves that operate all clutches in the draw works transmission, on the compound drive hydromatic brake, pumps, and sand reel. Similarly, hand throttles, also on the panel, control the three internal-combustion engines singly or in compound. Instruments showing air pressure, engine vacuum, transmission shaft speed and oil pressure are before the operator's eyes. An auxiliary instrument panel in front of the draw works shows pump pressures and bit weights as well as rotary speed.



Left: One man at the small bomberlike control panel is able to operate this huge heavy-duty oil drilling rig, designed and produced by Oil Well Supply Company, a subsidiary of United States Steel Corporation.

Not only is the operation of this improved rig easy on the muscles of crewmen; it has also proved remarkably safe and speedy in the installations which have already been made. Built to bore a shaft 16,000 feet down through hard earth shale and rock—deeper, perhaps, if the need arises — the rig's designers hope to substantiate their theory that this new mechanical equipment will set a new high record for deep penetration.

The pneumatic operation is made safe and dependable by more than adequate compressor capacity. Three compressors, driven individually by the three engines, afford an immediate pressure buildup on starting any engine. Since two compressors are capable of maintaining adequate air capacity and pressure the third is available virtually as a standby. The abundant engine power available for either hoisting or pumping, plus convenient centralized fingertip control, saves valuable drilling time. A report on one installation indicates more than a month's time was saved in drilling to the 10,500 foot Ellenburger pay depth.

Six forward and two reverse speeds are available. Ample braking capacity is provided through combination band and shoe type equalized brakes operating on series water-cooled alloy steel flanges.

Safety is assured by complete guarding of all moving parts and a

(Continued on Page 62)

Portable Hoist for Well Service

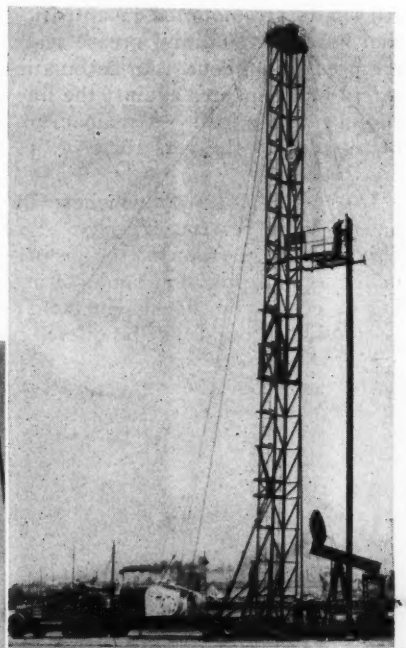
Utilizing a hydraulic torque converter for great flexibility of operation, a new IDECO Hydrair Series H portable hoist for drilling, workover and servicing operations has recently been placed on the market by International Derrick & Equipment Company of Torrance, California. The hoist is skid mounted with an internal combustion engine for power and is transported with a telescoping mast or derrick as a single unit assembled on a semi-trailer as shown in the accompanying illustrations or on a truck. It is made in three sizes—H-40, H-30 and H-25—with engine capacity provided for the duty to be performed. Among the advantages claimed by the manufacturer are maximum speed of operation; no delays to de-clutch, change gears, and re-engage clutch, since air operated clutches permit easy and immediate engagement of either high or low ratio; with simple and easy control of equipment which permits the operator to work efficiently for a full day without fatigue. The H-30-D model has the most general application for servicing work at the present time and is here illustrated and described.

The torque converter is mounted directly on the engine and provides an infinite number of speed ratios, automatically giving the ratio most favorable to operating conditions. All power is delivered through fluid so shock and vibration are not transmitted to the engine. The main drum has two speeds forward and the sand line drum one speed forward. Maximum speed for raising empty blocks and high pull for coming out are both available without changing gears. High-low drives may be shifted instantaneously under full load because of the unique combination of air clutches and the hydraulic torque converter. A separate cooling radiator for cooling the oil of the torque converter is mounted in front of the engine radiator and is served by the engine fan.

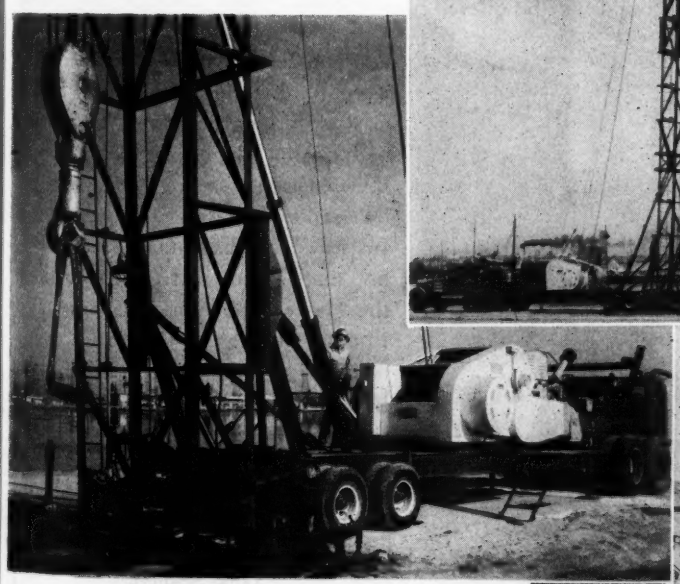
All clutches of this size hoist are of the air-constricting type with the main drum clutches built outside the drawworks case for convenience in maintenance. A feature of the air clutches is the absolute lack of drag when the block is falling. The drums are rendered totally free-rolling when the clutches are disengaged.

Controls are at the driller's position. Two safety cut-out switches are installed on the hoist, one at the driller's position and the other at the cathead. The cathead is normally on the opposite side of the hoist from the driller but can be on either or both sides. The H-40 hoist is designed for a maximum of 300 horsepower and 40,000 pounds single line pull with the speed dependent upon the power available. The H-30 hoist provides a maximum line pull of 30,000 pounds and handles a maximum of 185 horsepower. The H-25 hoist has a maximum horsepower capacity of 155 and a maximum single line pull of 25,000 pounds.

Rotary drilling attachments can be provided for each type. With the H-25, the rated drilling capacity with 4½" drill pipe is 1500 feet. With the H-30, the recommended capacity is 3000 ft. of 4½" drill pipe or 3500 ft. of 3½" drill pipe. Maximum drilling depths for the H-40 are 4500 feet of 4½" or 6000 feet of

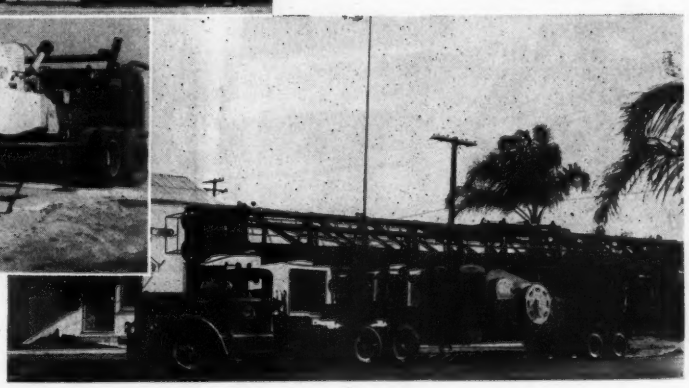


To the right—The mast extended and the unit being used to pull tubing



Above—Details of hoist and mast support are here shown.

Below—The entire unit assembled on semi-trailer for transportation.



3½" drill pipe with 200 horsepower; or 5500 feet of 4½" or 7500 feet of 3½" drill pipe with 300 horsepower.

The Kwik Lift mast assembled with the H-30 unit shown in the illustrations is 89 ft. in height and has a capacity of 150,000 pounds at the hook with 5 lines strung. It is raised to the vertical position by a hydraulic ram and the upper section is then telescoped by the traveling block. The racking platform is normally 55 feet and the mast will take two 5000 ft. sucker rod hangers. When telescoped, the mast has a highway length of 57 feet.

While here shown on a semi-trailer, the assembled hoist, engine and mast can also be furnished mounted on a truck of appropriate size. The heavier outfits are more conveniently mounted on semi-trailers.

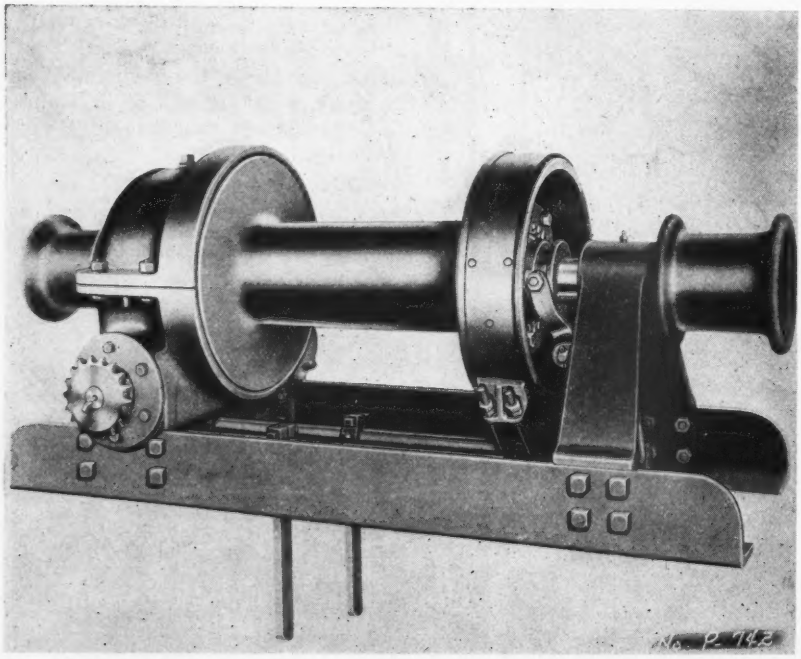
Truck & Tractor Winches Now Part of Lufkin Lines

A line of truck and tractor winches will be added to the many and varied types of industrial equipment manufactured by the Lufkin Foundry & Machine Company. First in the truck winches are two sizes, a Model 15 of 15,000 pound line pull rating and a Model 30 of 30,000-lb. line pull rating. First in the tractor winches are a Model 60 rated at 60,000 pound line pull and a Model 125, an extra heavy duty winch for the largest tractors built and rated at 125,000 pound line pull.

All winches are conservatively designed to insure reliable service and long life. Overside worm gears of very special heat treated gear bronze are used and are "run in" with the heat treated alloy steel worm before shipment. Show and field tests have proved the superiority of this worm-gear combination. A patented drum clutch is provided of tapered tooth design which is easier to engage and disengage. It cannot slip under load, in fact the heavier the load is, the tighter it holds.

The tractor winches feature, in addition to special worm gear and drum clutch, a two speed forward and two speed reverse transmission using heat treated alloy steel herringbone gears noted for their longer life and smooth silent operation. All shafts are mounted in anti-friction bearings. Oil and grease seals are used throughout. An automatic safety brake insures against the line slipping under load. A main drum brake adds to the versatility of operation.

In general, all Lufkin winches will have a large reserve capacity. By very careful selection of the proper materials and precision manufacturing processes, the finest winch that is possible to build will be offered.



New Oil Well Rig

(Continued from Page 60)

number of new advanced safety features. Special provision is made for maximum accessibility of inspection and maintenance of all moving parts. For moving from site to site, the power compounding assembly is disconnected into five units, each of the prime movers being mounted on a skid type sub-base. The draw works moves as a single load 21½ ft. long, 9½ ft. wide and 8 1/3 ft. high. By unbolting the tranmission from the draw works an 8-foot road clearance may be obtained. Thus great portability is accomplished to lower the time and cost of moving.

A.P.I. Standard Gages Announced by Vard, Inc.

Vard, Inc., of Pasadena, California, manufacturers of precision gages and instruments, have recently announced the addition of certified standard A.P.I. gages to their already complete line of thread and cylindrical gages.

Vard gages are manufactured to American Gage Design standards and are scientifically heat treated and sub-zero stabilized. The A.P.I. Tool Joint, Cable Tool Joint, Sucker Rod, Standard Tubing, Line Pipe and Casing Gages are all made of the finest tool steel. Vard, Inc., is licensed by the American Petroleum Institute to manufacture the A.P.I. line and is equipped to supply both the Master and Working Rings and Plugs. All Master Gages are certified by the Bureau of Standards in Washington, D. C.

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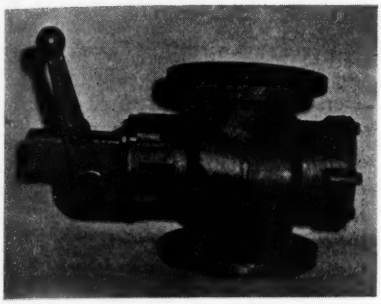
920 Santee St. Los Angeles
651 Howard St. San Francisco

New Valve Introduced by Booth Mfg. Co.

Incorporating an original and unique combination of pressure balanced piston and fluid seal rings, the new BOOTH SHUT-OFF VALVE achieves a high degree of efficiency, according to the manufacturer. Excessive wear, handle torque, pressure drop and leakage—the commonest and costliest cause of failures—are eliminated, resulting in longer life and lower maintenance costs.



The BOOTH VALVE features the passage of a piston through the valve body as a cylinder, employing "O" rings to effect a positive seal. Only normal pressure is required to move the handle actuating the piston, through the use of a simple reduction mechanism geared to an 8 to 1 ratio. Hydraulic hammer or vibration in the line, caused by abrupt cessation of flow, is eliminated through the valve's snub-closing action to obtain a tapered rate of travel at the end of the piston stroke. 130° to 180° turn of the handle will completely shut off or open the valve.

Both piston and cylinder are of hard chrome finish and valves may be purchased in metals necessary for your specific application: aluminum, brass, iron or stainless steel, and are available in 3" and 4" sizes. The valve operates from a minimum pressure to 1500 p.s.i.

Maintenance Features

The new BOOTH SHUT-OFF VALVE is of design simplicity and manufactured for continuous operation without original or maintenance lubrication. Servicing of the valve is not required except for periodical inspection and possible replacement of seal rings. Both servicing and installing of new seal rings can be done without the removal of the valve from line.

Further information can be obtained by writing to BOOTH MANUFACTURING CORP., 3333 North San Fernando Blvd., Burbank, Calif.

McDonald Company Introduces Adjustable Splints for Fractures

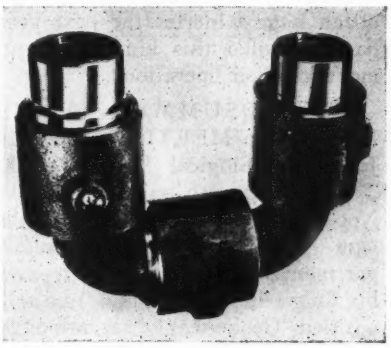
When fractures occur, it is well to bear in mind one rule: let the doctor set the broken limb. The problem of moving the patient without having to "set" or otherwise straighten the fracture is now solved with a new adjustable splint that immobilizes the leg or arm in its line of deformity, enabling first aid workers to move the patient without having to use traction to prevent a simple fracture from becoming compound. This new adjustable splint being introduced by the B. F. McDonald Company, West Coast manufacturers of safety equipment, is ideal for fractures because it easily and quickly conforms to the line of deformity.

Light, sturdy, fool-proof, the McDonald Adjustable Splint protects the victim until he can receive competent medical treatment. Adjustable to virtually any position, it locks quickly in place and stays locked. It is available in two sizes, for fractures of leg or arm. When not in use, it takes up little room in the first aid kit or cabinet.

Complete information may be obtained by writing B. F. McDonald Company, 5112 So. Hoover Street, Los Angeles 37, California.

New High Pressure Swivel Fitting By Earle R. Atkins Company

The Earle R. Atkins Company, a California Corporation, with offices in the W. W. Wilson Building, Huntington Park, California, is now producing under the trade name of ERAC, a complete line of single, double, and triple swivel ball bearing fittings for high pressure applications.



ERAC swivel fittings are designed to eliminate torque, and are flexible at all pressures, being restricted to free turning only by the friction load on the double rows of balls, and the internal pressure exerted on a small section of the self-sealing packing unit at the point of rotation. The double rows of balls are widely spaced to maintain perfect alignment and roll on hardened and ground wear plates. Wear on the ball races may be compensated for by an easily adjusted thrust nut. The specially moulded one piece packing unit provides a tighter seal with increased pressures. It is neither necessary to remove fitting from the line nor to completely disassemble it when repacking or adjusting thrust nut, thereby allowing quick repair service on the job.

ERAC high pressure fittings will be available in sizes from ½ to 4 inches with threaded, flanged, or welded ends. Oil field specialties such as Circulating Heads, Mud Mixing Guns, Cementing Hose, etc., are part of the new ERAC line. Mr. Atkins, who heads the company, has been associated in the swivel fitting industry for many years, and fully understands the needs of those faced with the problem of moveable lines at high pressures. Swivel fittings for low pressures and steam service will complete the line.

Kern County News

(Continued from Page 44)

(Kettleman North Dome Association). **Oilfields Construction Company** has a four unit job now going on at Tide Water Associated north of North Belridge. **Charley Manley** reports that in the last 12 years 76 compressor units have been built by the firm up here which furnishes 24,000 hp to the industry. He also takes advantage of the opportunity that agriculture tenders him. A half dozen huge wineries the past year have installed this kind of equipment for their operations.

AT MIDSUMMER IN ITS REGULAR MEETING the San Joaquin Geological Society at El Tejon this month enjoyed Earl V. Noble of Union Oil. Earl is the "gm" of that firm's exploration department and has returned from a big long trip in Paraguay. In a talk entitled "Geological Observations In Paraguay'" he used technical slides and a colored motion picture. He related that 56 million acres are under lease for oil by the industry. The Union has a well which is the deepest ever drilled in the country now at 2000 feet. In the absence of Herm Weddle, president of the society and Tom Woodward the vice, **Floyd L. Johnson,** secretary treasurer presided and acted as chairman of the evening. Floyd is geologist for the Honolulu Oil Corporation . . . here. Noble is the national president of the American Society of Geology, and has been doing some excellent work in lecturing before technical groups.

A PLETHORA OF DEMANDS FOR goods and services in the Oil Industry has been in evidence as a result of much advertising the past year as well as demands. A long range program of at least a year make the old **ad adage** a true one, "repetition makes reputation", according to Charles P. Lake of WoSco. He gets calls from highway and magazine advertising which bear the earmarks of someone who has been looking and remembering. Kern Oil news enjoys the same inquiries, but WO/BS (without benefit of sale).

W. W. TALMADGE out at Tide Water Associated has created through his opportunity in fraternal organization circles, a kind of community civic affairs committee. Housing, Recreation, Safety and Public Relations chairmen have been named from his organization to serve with civic organizations. They keep Talmadge informed for the organization, so that their part in making known the human resources will help develop the economic and natural assets of the community.

DID YOU KNOW THAT Kern County Library is the ONLY depository of petroleum collateral information and authorized so by the Geological Society of America whose publications are not found elsewhere in California with the exception of the universities?

FRANK LATTA has that oil history completed and he has sold his manuscript to a well known publisher, reporting that copies may be available about January 1, 1947.

WALTER A. STOKESBARY of Shell is more than a practicing geologist during his hobby hours. As a student of other products from the soil besides oil, the subject of **Ramie** the short cut to spinning gets a ready audience. In Florida the climate is ideal for the production of what is perhaps the world's loveliest fibre. Here in semi arid areas the fibre is brittle, so cottonmen are not disturbed over it as competition. Perhaps the flaxwigs of Florida are, or will be elsewhere. This tropical like plant grows to six or eight feet and looks like a ragweed. Considerable interest is always aroused, but delicate machinery and the bugs for arid climate production efficiency worry backyard agriculturalists and farmbarons alike.

SANTE FE HAD PUBLIC RELATIONS ALL OVER THE county last month. First Mr. A. W. Winter arrives in the summer to conduct chamberwigs through one of the biggest ice houses along the line . . . we know there's a mistake . . . it must be the largest. Then after this seconds to a canteloupe cobbler were served that outdid "Shoofly" pie we readied ourselves for their President the following day or so and saw many C C M O folks present, who told us Sante Fe and they were just like this (holding up two closed fingers).

GOLDEN BEAR OIL COMPANY'S petroleum products have a story that has never been told. Vice President Charles P. Prewett, resident general manager, will have more to say later. . . . Evidently G.B.O. Co. believes in advertising too from the looks of its "golden bear" in gold relief on its banner bearing such device. At Los Angeles, is Jack Feldman ever eager to relate how Golden lube repels friction to zero minus plus.

E. C. EMMONS (Curley to you, Errol to us) has been dubbed the oil supplywigs best dressed man. This colyum will box cigars to anyone disproving the allegation or even approaching disputed claims.

ERNEST S. ELLERY, manager of El Tejon, has been named General Chairman of Community Needs for Kern County. Ellery has a backlog . . . and stockpile of civic needs that makes the man look like a sequesterer of dreams about castles in the air. However, everyone of them is a dire community need and proving to be an asset worthy of being made known to oil men too.

JIMMIE KASTL IS A NAME TO REMEMBER in the San Joaquin Valley. He has done everything from bank messenger, cotton picker to locating industry and its allied plants. He turned in a report on Kern County Oil News filled with praise for public relations and community identification knowhow. J. P. Kastl of the big PG&E is commercial and industrial supervisor. He is identified with the grass roots approach to the small community for its part in big business appeal for "ruralizing" industry. In national magazines the PG&E display advertising is backed up by surveys which are mentioned, that were properly and professionally prepared locally by Kastl's able direction. This is a tribute to the oil industry because industrial energies are affected.

DON'T LOOK NOW but Clay Thompson will be back from his vacation by the time you read this, and so Mohawk's Assistant Superintendent won't have to take out vacancy insurance on his house. His friends take over his barbecue and coil springs whenever they hear he is going . . . on a trip and once they forgot to bring back the silverware.